

INCREASING

the

REUSE

in the

AREA of

COPENHAGEN



ONE MAN'S TRASH
ANOTHER MAN'S
TREASURE

THESIS - Msc Sustainable Design
AALBORG UNIVERSITY COPENHAGEN - June 9th, 2017
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ABSTRACT

The aim of this thesis is to investigate how to increase the reuse of things for free by the inhabitants in the area of Copenhagen through the use of the services and initiatives already existing. The project was driven by the collaboration with Innoaid, which has an online platform for the free reuse of things, Freeng.

Actor Network Theory framed the whole process in the four stages of a translation. First, in the problematization, interviews and field trips aided to investigate some of the systems available to get rid or obtain things. Then, in the interessment, co-design was brought into play with the use of prototyping space, by staging several interactions with different actors, whose inputs and insights resulted in the solution proposed.

The solution consists in a website that collect the information on how to reuse in the area of Copenhagen and a link to each item shared for free in the services for the exchange of second-hand objects, which will need to be made known and used by the inhabitants of the area, through ad hoc events or advertising.

However, the result of this thesis is not a developed technical solution, but an investigation on the two new networks needed to support the creation of the website and the event to promote it, with the several actors in them. Nevertheless, just once that a prototype of the website will be created and it will be presented to the different actors they can be finally enrolled and mobilised in the network.

Keywords: Reuse – Free – Copenhagen - Actor Network Theory – Participatory Design – Innoaid - Freeng



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TABLE OF CONTENT

1. INTRODUCTION	p.1
2. STRUCTURE OF THE THESIS	p.2
3. PROBLEM AREA: THE REUSE AND THE GIFT ECONOMY	p.4
3.1. PROBLEM DEFINITION	p.7
4. APPROACHES	
4.1. ACTOR-NETWORK THEORY	
4.2. PARTICIPATORY DESIGN	
5. COLLECTING EMPIRICAL MATERIALS	p.12
5.1. THE MEETINGS WITH THE INHABITANTS	
5.2. THE FIELD TRIPS	
6. ANALYSIS: THE FIRST PHASE OF THE PROCESS OF TRANSLATION: THE PROBLEMATIZATION	p.16
6.1. THE MAIN ACTOR-NETWORK AND ITS ACTORS	
6.2. EXAMINING THE RELATIONSHIPS BETWEEN THE USED THINGS, THE FREE EXCHANGE AND THE INHABITANTS	
6.2.1. GET RID VS OBTAIN	
6.2.1.1. THE 'GET RID OF IT' NETWORK	
6.2.1.2. THE 'OBTAIN IT' NETWORK	
6.2.2. THE DBA NETWORK	
6.3. TOWARDS A DESIGN CONCEPTUALIZATION	
7. CONCEPTUALIZATION: THE SECOND PHASE OF THE PROCESS OF TRANSLATION: THE INTERESMENT	p.39
7.1. THE FIRST PROTOTYPING SPACE – THE INHABITANTS	
7.1.1. THE EIGHT POSSIBLE SOLUTIONS	
7.2. THE SECOND PROTOTYPING SPACE – THE MUNICIPALITY	
7.3. THE THIRD PROTOTYPING SPACE - SHAREPEEPS	
7.4. THE FOURTH PROTOTYPING SPACE – UNGENERGI	
7.5. THE FIFTH PROTOTYPING SPACE – INNOAID	
7.6. THE SIXTH PROTOTYPING SPACE – BYTTEMARKED	
7.7. THE SEVENTH PROTOTYPING SPACE – STORSKRALD.DK	
7.8. TOWARDS THE DETAILING OF THE DESIGN SOLUTION	
8. DETAILING OF THE DESIGN SOLUTIONS: TOWARDS THE THIRD AND THE FOURTH PHASE OF THE PROCESS OF TRANSLATION: THE ENROLLMENT AND THE MOBILIZATION	p.63
8.1. THE UMBRELLA WEBSITE	
8.2. THE EVENT / ADVERTISEMENT TO MAKE THE UMBRELLA WEBSITE KNOWN	
8.3. FURTHER ADVENTURES	
9. REFLECTIONS	p.72
9.1. THE MATTER OF CONCERN 'I WAS LOOKING EXACTLY FOR THIS ONE'	
9.2. THE LIMITATIONS OF THIS THESIS	
9.3. THE CHALLENGES IN MAKING THE WEBSITE RUNNING	
10. CONCLUSION	p.76
11. REFERENCES	p.79
12. APPENDIX	p.83



1.

INTRODUCTION

Nowadays, the lifestyle of most inhabitants of the planet reflects the myth that the world has infinite resources for our development and endless space for trashing our unwanted objects, and it will always have. Instead, a sustainable development needs to be pursued, which was first defined in 1987 as a *“development that meets the needs of the present without compromising the ability of future generations to meet their own needs”* (Brundtland and Khalid, 1987, p.15). Hence, a massive change in the current patterns of production, consumption and disposal needs to be chased by all the actors involved, from the inter-governmental institution to the individual citizens.

One option to save resources for the future generations is by promoting the reuse of things that are still working, in opposition to trashing them or buying them new.

It can be said that the practice of reusing things is already present in the Copenhagen area in several forms, for example, in several buildings of the area are available dedicated spaces in which inhabitants can leave their unwanted objects, so their neighbours can take them. In addition, the city of Copenhagen is planning to increment the direct reuse with various strategies that, together with other measures, will help it to become a Zero Waste city by 2050, that is *“a city that does not drain the resources of the rest of the world, but where resources are circulated and thus maintain their value”* (City of Copenhagen, 2014, p.7)

Furthermore, several services are available to allow citizens that do not know each other or do not live in the same building to exchange things between them, such as the online platform developed by Innoaid, the collaborator of this thesis, called Freeng (Freeng, n.d.), in which people can post their unwanted objects, and others can get them for free.

In fact, in this thesis, the focus is on the services that allow the free reuse of things, inspired by the concept of the Gift Economy, which highlights the social reasons to exchange objects rather than the economic ones, by creating a community of people that mutually support and help each other.

But how to increase the reuse of things for free by the inhabitants in the area of Copenhagen through the use of the existing services and initiatives?

This thesis aims to give an answer to this question, starting with an investigation into the existing services for the free reuse available in the area conducted with the interviews with some inhabitants, followed by co-designing a solution with several actors to create the network that will support it, through the process of translation of Actor Network Theory.

Therefore, ANT will guide in the building of the new network that will endorse the solution through a process of translation, while co-design will allow the active engagement of the various actors that could be involved in this solution, from the Municipality of Copenhagen to the individual citizens and the private companies, through the concept of prototyping spaces.



2.

STRUCTURE OF THE THESIS

In this chapter, the structure of the thesis will be presented. The report is divided into ten chapters, starting with an Introduction to present the thesis, followed by a Problem Area in which I investigated the benefit of the reuse and of exchanging things for free, inspired by the gift economy, together with some of the initiatives that aim at increasing the reuse in the area of Copenhagen. This leads to the problem definition, that is how to increase the reuse of things for free by the inhabitants in the area of Copenhagen through the existing services.

Two theoretical frameworks have been used in this thesis, to analyse the data collected and to develop a solution, as unfolded in the Approaches chapter. One is Actor Network Theory, used to analyse the current networks and to guide in the process of establish the new one for supporting the solution through the four phases of translation, while the other is participatory design, which has been used in the second phase, the interestment, to co-design with relevant actors a solution to the problem definition.

The information required to analyse the current networks have been collected in eight meetings, staged with as many inhabitants of the area of Copenhagen, together with field trips in some of the physical services for the reuse of things, as explained in the chapter Collecting Empirical Materials.

Then, this information has been used in the Analysis chapter, which is the first phase of the process of translation, the problematization, in which are presented the current main network and the networks of the several systems that allow people to get rid of an object or to obtain one in the area of Copenhagen. Also, the actor of DBA has been opened up to further elaborate on its internal relations, as an online platform similar to Freeng. The conclusion of this chapter is that people do not know enough the possibilities that they have for reusing things for free, the solution to which was then explored in the Conceptualization chapter, which is the interestment phase of the translation. Here, the seven prototyping spaces staged with as many relevant actors are presented, and a solution is drawn from the insights obtained in them.

The solution proposed, which is the website and the event to promote it, is then explained in the Detailing of the Design Solution chapter, with the two new networks that will support its establishment and the actors needed to create them.

After, a chapter of Reflections present some thoughts on the whole process of the thesis and on the challenges that the realisation of the website and its promotion will bring in the future.

Finally, a Conclusion chapter is present, in which my problem statement is answered based on the analysis, the conceptualization and the detailing of the solution.



3.

PROBLEM AREA

THE REUSE AND THE GIFT ECONOMY

In 2014, the total amount of waste generated among the countries of the European Union was of 2.598 million tonnes, both in economic and household activities, which was the highest number recorded since the start of the measurements in 2004. Linking that amount with the European population, in 2014 each inhabitant trashed more than five tonnes of waste, while in Denmark it was of more than 3 tonnes per person (Waste Statistics, 2016) and in Copenhagen it was of around 400 kg each (City of Copenhagen, 2014).

One approach to lower this massive amount of trash produced is following the pyramid of the waste hierarchy, shown in Fig.1, which is the EU standard that all the waste legislations and policies of the member states must follow (Directive 2008/98/EC on waste, 2016). Of course, the best way of reducing waste is to avoid its production in the first place, for example avoiding the use of plastic bags, which is positioned at the very top of the pyramid. Then trash *“that cannot be reduced should be reused if possible. That cannot be reused or reduced should be recycled”*, turning it back into usable raw materials, and *“wastes that cannot be recycled should be recovered”* (Samiha, 2013, p.130), for example incinerating plastic to produce heating, concluding with the less favourable option, the mere disposal.

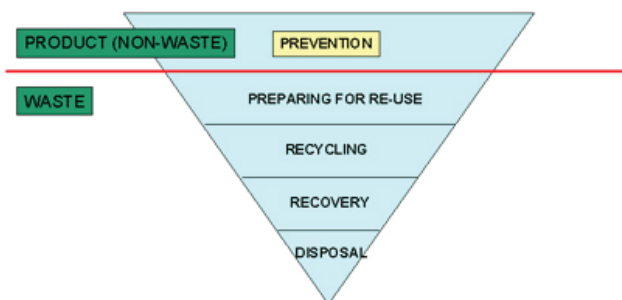


Fig.1: The pyramid of the waste hierarchy of the EU (Directive 2008/98/EC on waste, 2016).

Therefore, the reuse of waste is the second most preferable option in the hierarchy and it *“involves the repeated use of products and components for the same purpose for which they were conceived”* (European Commission, 2010). So, items can be repaired, sold second-hand or gifted, which is more desirable than reprocessing them, as the recycling would require (Samiha, 2013).

The environmental benefits of the reuse are undeniable. In fact, by reusing things the amount of waste that goes to the landfill or in the incinerator is reduced, which is saving both space and money. Moreover, since fewer things need to be produced, natural resources for the future are preserved, air and water are less polluted, and energy and water are saved (Samiha, 2013). Besides the environmental impact, reusing also has social, cultural and economic implications, since it makes cheaper to obtain objects for who cannot afford them new, but is also creating jobs, for example in running the systems that allow the exchange of used things (European Commission, 2010).

The reuse can be increased by creating policies ad hoc but also by designing markets, services and systems that people can use to exchange things between them, as many of the Europe Members are doing, like Denmark (European Commission, 2010).

In fact, in 2015, Denmark has adopted a waste prevention strategy, called ‘Denmark Without Waste II. A Waste Prevention Strategy’, in which the Danish government set general directions aiming at easing and increasing the reuse of clothes and textile, but also of electrical and electronic equipment, among others, with various ad hoc taxes, programs and funds (Danish Government, 2015).

Regarding Copenhagen, in 2014 the city pre-

pared a Resource and waste management plan to be fully implemented in 2018. One of its main points is that the direct reuse must be incremented, together with a reduction in the generation of waste, an increase in the recycle and a decrease in the incineration (City of Copenhagen, 2014). One way in which they are going to increase the reuse of things is by expanding the swapping at the recycling centre and in the recycling hubs, but also in the courtyards of the citizens. In fact, a survey showed that if 150 of the latter will set up a swapping facility, 85 tonnes of waste will be saved, which will also help the city to save money for the collection and treatment of those things that will be swapped instead (City of Copenhagen, 2014).

The systems and initiatives to increase the reuse can be initiated from the municipality but also from different organisations, such as NGOs like Innoaid, the collaborator of this thesis, which developed Freeng, a system for the free reuse. Also, private initiatives can happen in the individual neighbourhoods and buildings, such as the dedicated rooms in which the residents can leave their unwanted objects and take things to reuse, which are already present in several places in the area of Copenhagen. In fact, a research showed that the 98% of Copenhageners think that it is okay if the objects they have trashed are reused by other people (City of Copenhagen, 2014). Indeed, it is fundamental to engage people in increasing their reuse rate as well with education campaigns but also with ways of engaging them in active participation in designing possible solutions with the other stakeholders, such as mu-

nicipalities but also NGOs and private companies (Zero Waste?, 2017).

The reuse can be facilitated by systems that expect payment with money or allow the swapping, in which one thing is traded for another, or by initiatives that support the exchange of items completely for free.

Giving things for free can be considered as part of the gift economy, which is currently seen as one of the alternatives to the market economy, even if it has always taken place in some ways, from primitive societies to contemporary ones, for example when handing out children clothes within relatives or donating blood.

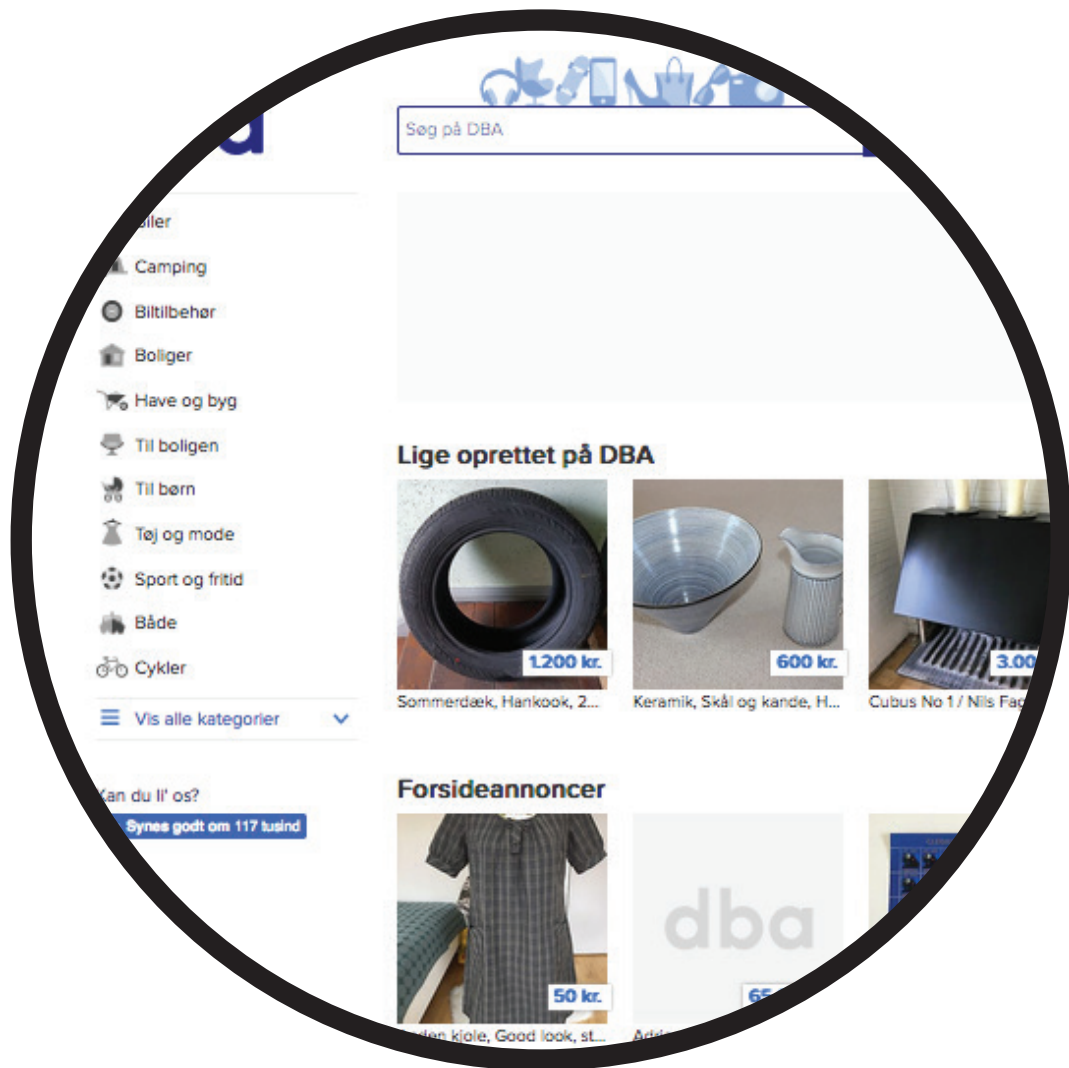
Furthermore, gifting highlights the social reasons to exchange objects rather than the economic ones, and *“gift-giving practices are invested with physical, social, psychological, and emotional value according to the everyday contexts in which they are situated”* (Kennedy, 2016, p.465).

Furthermore, in a gift economy, gifting is made without any preconditions, but the receiver will follow the social norm of reciprocity which obliges to return the favour in some way, but to who, how, when and in which form he can. So, it is a mean to create cohesion and connection, strengthening the bonds within the community with giving and reciprocity (Gendler, 2014). In fact, *“through the gift economy, humans feel themselves as one part of a large self-regulating system where what happens to one pearl in creation’s necklace affects them all”* (Kailo, 2008, p.6). In this way, the gift of things can also be of support for people in need who do not have the resources to buy new or used objects.

3.1. PROBLEM DEFINITION

Therefore, based on the context outlined in the previous pages, the problem definition of this thesis is as follows:

How to increase the reuse of things for free by the inhabitants in the area of Copenhagen through the existing services?



4.

APPROACHES

In this thesis, actor-network theory and participatory design have been used as approaches, as it will be unfolded in the next pages. Actor-network theory (ANT) was used to analyse the existing network, with the actors and their matters of concern, and to stage the creation of a new network for a solution to the problem definition, following a process of translation. Participatory design was used in the second phase of the process of translation, the interestment, through the concept of prototyping space, to strongly interest the

actors to create a new network that will support the solution, since *“the fate of the innovation depends on the active participation of all those who have decided to develop it”* (Akrich et al., 2002, p.208). The combination of ANT and participatory design allowed the design process to be based on *“collaboration, mutual learning and the sharing of knowledge and ideas to create synergies and promote negotiations about the final network solution”* (Pedersen and Brodersen, 2017, p.10).

4.1. ACTOR-NETWORK THEORY

According to Latour, designers should deal with designing products acknowledging that objects need to be turned into things since there is something more in them than their pure materiality. In fact, *“objects are always assemblies”* (p.12), formed by all the entities involved and the controversies within them (Latour, 2008a). Therefore, to design things it is necessary to understand and investigate those entities with the controversies and the negotiation between and behind them. That is why in this thesis it has been chosen to use actor-network theory.

The core of ANT is that things are at the same time an actor and a network, since they are *“an actor whose activity is networking heterogeneous elements”* but also *“a network that is able to re-define and transform what it is made of”*, that is its actors (Callon, 1987, p.87).

The various entities that form an actor-network are called actants, which are *“something that acts or to which activity is granted by others”* (Latour, 1996, p.7). Actants are heterogeneous, such as the relationships between them, and they can *“literally be anything provided it is granted to be the source of an action”* (Latour, 1996, p.7). In fact, they can be human and non-human; social, natural and technical; individual and non-individual; and must be analysed without any hierarchy and any distinction concerning their nature, proximity or size (Latour, 1996).

Each actant *“hides another set of entities that it more or less effectively draws together”* (Callon, 1987, p.88), so every network can be reduced to a single actor, and at the same time, every actor can be opened up to reveal the network it is made of. Therefore, a process of simplification is needed to reduce the analysis to the entities useful for it. This operation must always be tested, since the rise of controversies can require an actor to be opened-up and further investigated (Callon, 1987).

An actor-network is never stable, since each entity in it can exercise a force that can influence the whole and modify it, in fact, *“a network is durable not only because of the durability of the bonds between the points (...) but also because each of its points constitutes a durable and simplified network”* (Callon, 1987, p.90).

Therefore, a new network arises from scratch or from an old network when the actors in it change, and the bonds between them alter, or the elements in the networks inside those actors modify, following a process of translation, in which *“the identity of actors, the possibility of interaction and the margins of manoeuvre are negotiated and delimited”* (Callon, 1986, p.202). The new networks that a translation allows to form can be discussed at any moment, for the instability naturally embedded in every actor-networks.

A translation, as described by Callon, consists of four 'moments': problematization, interessment, enrolment and mobilisation (Callon, 1986). In the problematization, the problem and the actors in the network with the relationships between them are identified, such as what they want. In the interessment, those actors are made interested in joining the network with suitable devices, called interessment devices, to make them understand the importance of entering the network to obtain their purpose. If this phase is successful, the enrolment follows, in which the roles of the actors are defined, interrelated with peculiar strategies and negotiation between them but also accepted by the actors themselves. However, the actors involved are always represented by a spokesperson, which is the one to be interested and enrolled. If the spokesperson is able to represent those actors properly, the mobilisation happens, since at this point the actors will actively support the network through him. Finally, at the end of the process of translation, *"a constraining network of relationships has been built"* (Callon, 1986, p.219).

In this thesis, ANT has been used to create a new network for a solution to increase the reuse of things for free by the inhabitants in the area of Copenhagen through the use of the existing services and initiatives, with a process of translation seen as *"a collaborative process of negotiation and mutual learning"* (Pedersen and Brodersen, 2017, p.9), thanks to the combination with participatory design.

First, in the problematization phase, the existing networks and their actors, with their different matters of concern, have been investigated, thanks to the information collected in the meetings with the inhabitants and in the field trips. The concept of matter of concern has been chosen for its flexibility and adaptability to the different stages of the construction of an actor-network and its changing nature. In fact, matters of concern *"have to be liked, appreciated, tasted, experimented upon, mounted, prepared, put to the test"* (Latour, 2008b, p.39). Moreover, matters of concern are elastic enough to be open for negotiation with each actor according to their interpretation and motivations, and they can be subsequently mod-

ified to make sure every actor is satisfied sufficiently to be a part of the new network (Pedersen, 2016a).

The negotiation of the matters of concern was done in the interessment phase with a Participatory design approach, made possible by putting into play the concept of prototyping space, a temporary space for innovation and design which worked as an interessment device to first negotiate and explore the problematization with the actors, according to their matter of concerns, and then interest them in the design process (Pedersen, 2016a). Therefore, in a prototyping space take place *"the encounters and negotiations between the navigator (designer, researcher or engineer) and the actor the designer wishes to interest"* (Pedersen, 2016b, p.7).

Each prototyping space happens at a certain time and with a certain configuration, highlighting the temporality of the various engagements with the actors in which knowledge is negotiated and then translated and transferred to the next spaces (Pedersen, 2016a). However, choosing the actors to interest in the process is a challenge for the designer, since *"the fate of innovation, its content but also its chances of success, rest entirely on the choice of the representatives or spokespersons who will interact, negotiate to give shape to the project and to transform it until a market is built"* (Akrich et al., 2002, p.217).

Interesting actors through a prototyping space happens in three steps, according to Pedersen (2016a). First, a navigator stages it to work as an interessment device, then, a facilitator tries to interest an actor in it and, finally, if the prototyping space is successful, knowledge is transformed, and the actor is interested (Pedersen, 2016a). The facilitation is delicate since for it to be successful and lead to the interessment of the actors, the designer needs to be flexible and improvise if the situation does not work as planned (Pedersen and Brodersen, 2017).

When the navigator stages the space to work as a prototyping space, (s)he needs to identify who is going to be the facilitator, who are going to be the actors to be interest, where it is going to happen, how to interest them and for which purpose (Pedersen, 2016a), as illustrated in Fig.2.

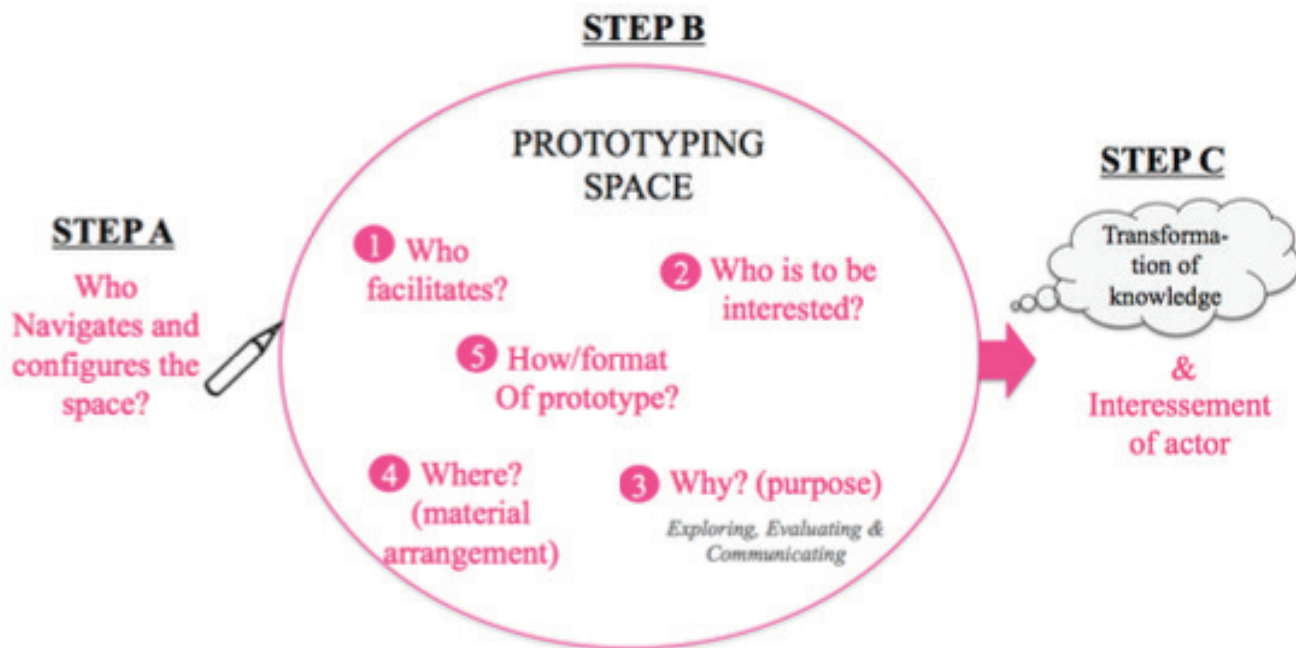


Fig.2: The configuration of a prototyping space including the questions a navigator must ask himself in the process (Pedersen, 2016b).

The different actors to be invited in the prototyping space were chosen due to their capability of influencing the actual realisation of the final solution, such as the municipality, but also their capability of supporting it, such as the various NGOs working with sustainability. As it will be unfolded in the Conceptualization chapter, the seven prototyping spaces staged in this thesis managed to interest in the design process all the actors invited. However, more actors are needed to be interested in creating the networks supporting the new solution, as it will be explained in the Detailing of the Design Solution.

Due to time constraints, the process of translation for creating the solution to the problem definition did not reach the interestment for some of the actors needed and did not reach the enrolment and the mobilisation phases for none of them. This was also due to the need of developing a prototype of the solution before discussing it with the actors, as it will be further investigated in the Detailing of the Design Solution Chapter and in the Reflections Chapter.

4.2. PARTICIPATORY DESIGN

To design services and products that can *“fit the way people will actually use the product in their own lives”* (Sleeswijk Visser et al., 2005, p.119), it is needed the information about how they interact with the products, their real needs and wishes, and who knows this better than the people themselves? That is why participatory design was used as an approach in this thesis.

Participatory design, or co-design, can be classified as the *“creativity of designers and people not trained in design working together in the design development process”* (Sanders and Strappers, 2008, p.6). In fact, the potential end-users and other stakeholders, which are the actors involved in the whole process, become a fundamental part of the design team and they are given the ap-

appropriate status of 'expert of their experiences' (Sleeswijk Visser et al., 2005).

They are hence recognised as legitimate participant in the design process, in which they provide *"experiential knowledge of their expertise, the work domain and practices"* (Robertson and Simonsen, 2013, p.6), starting from the point of view that *"all people are creative"* (Sanders and Stappers 2008, p.5) and can express their thought, personal experiences, needs and wish with the appropriate tools.

Thus, participatory design is aiming to enhance democracy involving the actors actively, since they are the one which life will be impacted by the changes. Therefore, they *"should, as a basic human right, have the opportunity to influence the design of the practices and technologies that involve their use"* (Robertson and Simonsen, 2013, p.6).

This approach introduced a switch from the traditional design process where the user was *"a passive object of study"* of the researcher, which then passed the outcome of this study to the designer that designed a solution (Sanders and Strappers, 2008, p.11). In fact, in Participatory design, the three roles change, since the person who eventually will interact with the design becomes a part of the design team, playing a fundamental role in the design generation (Sanders and Strappers, 2008).

This is made possible thanks to the support provided by the proper setting, such as a co-design workshops, and tools that allow the various actors not trained in design to ideate and express themselves, which are developed by the researcher and the designer. Those tools can be activities such as design games, but also interactions with prototypes, mock-up and other objects. They allow people to participate even if they do not speak *"the language of professional technology design"* and they *"may not be able to define what they want from a design process, without knowing what it is possible"* (Robertson and Simonsen, 2013, p.2). Due to that, a process of mutual understanding is needed for both the designers and the people not trained in design,

to collectively design a solution with all the participants actively involved.

If the tools used to aid the people to express themselves are allowing the mutual understanding and the sharing of knowledge between them and the designer, they became boundary objects, since they work to establish a shared and shareable context (Carlile, 2002). They are objects which are *"both plastic enough to adapt to local needs and the constraints of the several parties employing them, yet robust enough to maintain a common identity across sites"* (Star and Griesemer 1989, pg.8).



5.

COLLECTING EMPIRICAL MATERIALS

In this chapter, the methods used in the thesis to collect the empirical materials will be presented. First, eight meetings were conducted with as many inhabitants in the area of Copenhagen to obtain the information to be examined in the

analysis, each consisting of an interview with a design game. Then, four field trips were conducted in different settings, regarding some of the existing services for the free giving and obtaining of things.

5.1. THE MEETINGS WITH THE INHABITANTS

As a first step to collect information on how people approach the free exchange of things in the Copenhagen area, eight meetings were conducted with different inhabitants of that area. The information collected was used as a base to analyse the services available in the city for the exchange of things and the motivations that lead people to use them, with the use of ANT, as explained in the Approaches Chapter.

The people interviewed were chosen from a certain variety of age, status, origin and gender, to obtain different inputs and a broader picture. The majority of the meetings have been conducted in the interviewee's own house, when possible, to make them feel comfortable, but also to stimulate a deeper dialogue about their usual way of dealing with the exchange of their things and the motivations behind, since surrounded by them in their own home, which they could show directly to me, together with where they kept them (for example in a storage). In fact, the meetings held in the people's house were longer than the others, mainly due to how many information the person was sharing with me and how many things (s) he was showing. Therefore, each meeting had a variable length, from the shortest that was of circa 20 minutes, to the longest that was of almost one hour.

Each meeting was divided in two: the first part was a qualitative interview, while the second part was a design game (See Appendix B).

In the first part, I asked open-ended questions about what the interviewees do when they have an object that they do not need anymore and why, and when they need something that they

do not have yet and why. The interview was semi-structured with a guide with open-ended questions (See Appendix A), which were supplemented with others when needed, inspired by the ethno- graphic interview by Spradley (1979). This part introduced the person in the topic and made them reflect on their different ways of exchanging things.

In the second part, the person was to play a design game in which (s)he had to imagine a system for the free exchange of objects and choose which kind of motivations, written in bubbles, would make him/her use it, and then prioritise them in a target (Fig.3). The motivations presented have been retrieved from the preliminary research about reuse, exchange and the gift economy described in the Problem Area. It was also possible to add motivations, in blank pieces made on purpose. The design game was chosen since it is a valuable method to include people in the design process, encouraging a discussion by using physical game pieces and rules *"to assist the participants in telling about experiences and dreams"* (Brandt, Binder & Sanders, 2012, p.149). They *"purposefully emphasize play-qualities such as playful mindset and structure"* (Vaajakallio, 2012, p.218) helping the actors and the designers to explore together a topic. In fact, this design game was made to explore and understand which kind of trigger would make people exchange things for free and the reasons behind.

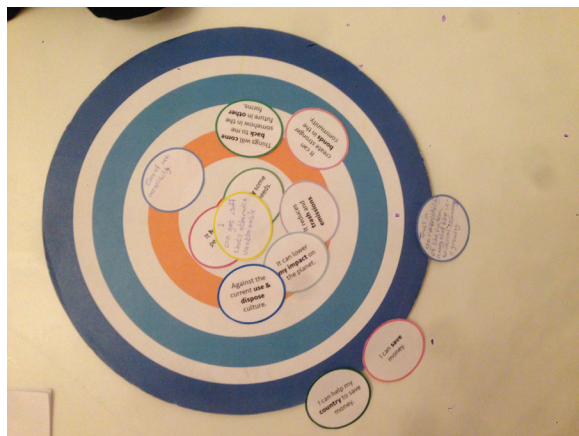
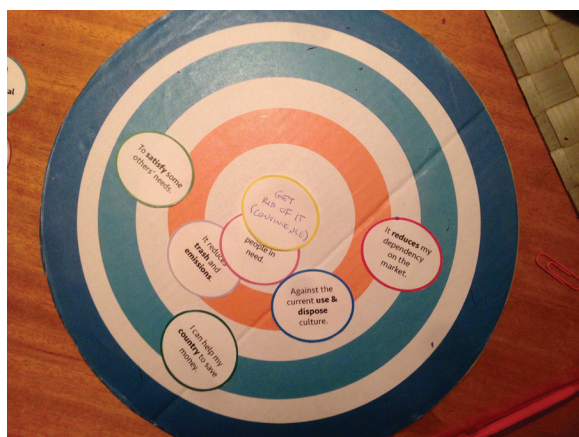


Fig.3: The targets of the eight design games.

5.2. THE FIELD TRIPS

To further investigate the different kind of services used to exchange things and how people approaches them, field trips in as many settings have been conducted. The field trips were fundamental to observe users approaching the different kind of systems in situ, observing their *“task flows, their inefficiencies and challenges, and their delights”* (Baxter, Courage & Caine, 2015, p.380) when using each service.

Observations, short in-situ informal interviews and photographic documentations were conducted to get a broad understanding of each system. The collected information acted as a further investigation on some of the physical and digital systems available in Copenhagen when citizens want to get rid of an object or obtain one.

A total of four field trips have been conducted in very different settings, which have been chosen for their differences in structures, purposes, and in being public or private (Fig.4).

A field trip was conducted in the Recycling Centre in Gentofte (See Appendix C), managed by its municipality, in which people can trash their unwanted object, and it can all be used by all the citizens of the Copenhagen Area, regardless of where they live (Genbrugsstationer, n.d.).

Then, the genbrugsgården (Genbrugsgården, 2017) in the neighbourhood Galgebakken, in Alberstlund, was observed, in which one of the interviewees lives, that is an open space for the waste collection with an area for things that people can exchange for free, which can only be used by its inhabitants (See Appendix D).

Another field trip was conducted in the neighbourhood Vesterled Grundejerforening (Vesterled Grundejerforening, n.d.), in Brøndby, in which another interviewee lives. They have a private Facebook group where people sell their things to their neighbours, but also give them away for free, ask for general info and post about local events, among others (See Appendix E).

Finally, the last field trip was done in the Byttestation in Vesterbro (See Appendix F), which is a little wooden house in which everybody can drop their unwanted items so somebody else can get them, with the purpose of *“give things, take things, let things live”* (In Danish: giv ting, tag ting, lad ting leve) (Indvielse af Vesterbytt byttestationer, 2016).

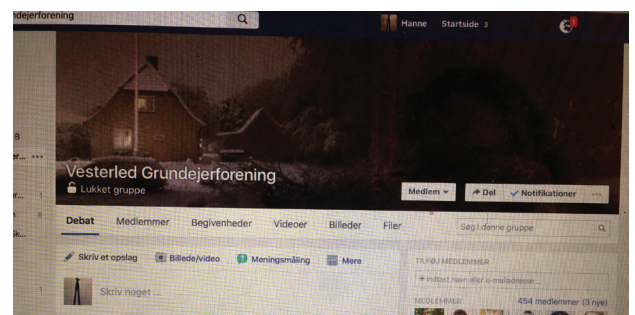


Fig.4: The four field trips conducted.



6.

ANALYSIS

THE FIRST PHASE OF THE PROCESS OF TRANSLATION: THE PROBLEMATIZATION

As shortly introduced before, the first phase of creating a network through the process of translation is the problematization, in which the actors included in the network are determined, and their identities and issues are defined, such as the various links between them and their matter of concerns. The scope of this initial phase is to understand how to make the actors involved realise that they cannot obtain what they want by themselves, but they must agree and form an alliance between them to succeed. However, the problematization is a hypothesis and *“the situation is never so clear cut”* since the identities and goals of the various actors are *“formed and are adjusted only during action”* (Callon, 1986, p.206). Therefore, new actors can come into play and the relationships between them can shift rapidly,

and, at the same time, their matters of concern (Latour, 2008b) can be modified, influencing the whole network and the success of it.

In the following pages, the current main network taken into consideration in the thesis will be explored, followed by an investigation of the several systems that allow people to get rid of an object or to obtain one in the area of Copenhagen. Then, it has been chosen to further elaborate on one system that allows that, the DBA actor-network. These investigations are based on the information collected in the meetings made with some inhabitants of the area, and in the field trips, as described in the Collecting Empirical Materials chapter.

6.1. THE MAIN ACTOR-NETWORK AND ITS ACTORS

In the current network taken into consideration in this thesis, there are five actors, and each of them has different matters of concerns that will be negotiated and reframed throughout the process of translation. The actors have been organised visually in an ANT map (Fig.5), and they will be further explained after it. Finally, the same map enriched with the actors' matters of concern will be presented (Fig.6).

One actor is me, the researcher, and my challenge in this network is to understand and translate the interests of all the other actors into a new one, to increase the reuse in the Copenhagen area.

Another actor is the Danish NGO Innoaid (Welcome to InnoAid.org, n.d.), which proposed me a collaboration for improving their online platform connected with an app, which allows the free exchange of things in Copenhagen, Freeng. This service is designed to be a social network for re-using objects that will start in Copenhagen but aims to become a global platform (CARE2RE-USE, n.d.). So far, a first version of the online platform and the app have been developed, but the NGO wishes to launch it in the summer of 2017.

Then, the inhabitants of the Copenhagen area that could be interested in the service are key ac-

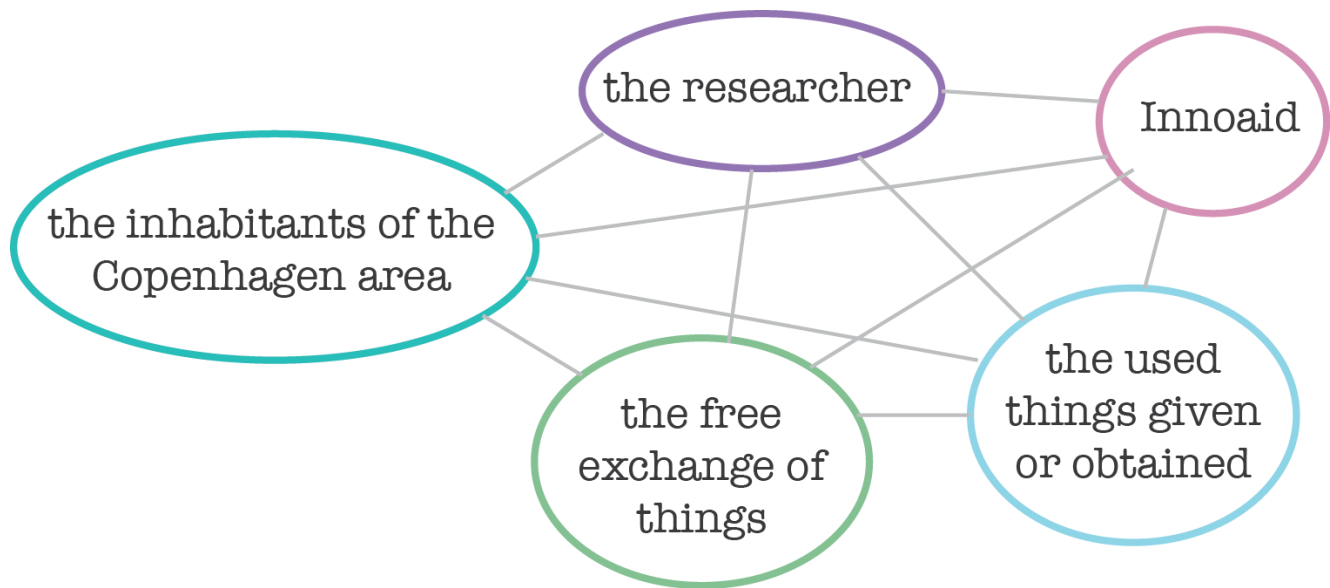


Fig.5: The main network with its actors.

tors to enrol and mobilize. For the sake of an overview, these actors are introduced as one network. However, as the analysis will show, there are four different matters of concern in play among these actors. As said in the Problem Area, the reuse culture is pretty spread in the area, and there are already several services that allow to exchange objects. This will be further elaborated and analysed later in this chapter. However, some of the residents are not using any of these services and will need a powerful motivation to do so.

From the meetings with the inhabitants and the information collected in the field trips, it was deducted that the inhabitants can be grouped in four branches, according to their main matter of concern. However, many of them have more than one of those matters of concern that merge into each other.

Most people said that they exchange things for free or they would like to do it since if the object is still in good condition they want other people to use it further, as one of them said *“if you have something that is working I think it is just a waste just to throw it out and that what is happening if you give it to the recycling station. Because in many cases they just throw it out”* (Actor 3). It can be said that they have a practical concern regarding the free exchange of things. The matter of concern of those actors is identified on the map with ‘It is a pity to throw it out’.

The second most shared concern among the people interviewed was of an environmental nature. In fact, they would like to exchange things

for free, or they are doing it because they want to reduce trash, lowering their impact, against the current use and dispose culture, as one of the people interviewed in the genbrugsgården that said, *“everything that can be reused must be reused”*. Also, one of the interviewees explained: *“it is meaningful to use things again and again and again because I do not want to trash it because it is still working so, I think for me, I do not like to trash things that work”* (Actor 4). The matter of concern of those actors in the map can be identified by the name ‘I care about the environment’. The third concern is of an economic kind, as many of the interviewees said that exchanging things for free helps to save money, and that is important both for the receiver but also for the giver, as one of the people in the genbrugsgården said *“I used money on them, so somebody can just reuse them”*. Those actors’ matter of concern in the map is called ‘money matters’.

Finally, some people would like to exchange things for free to get things that they could not get elsewhere because they are antique or sold out in the shops. That is what happened to one of the interviewees, keen on vintage items, *“sometimes it will be about retro stuff and vintage porcelains that are spread all over the country so sometimes I could get just two or three plates, and I do not have the other three that I need so I can make a research”* (Actor 6). Those actors’ matter of concern can be found on the map under the name ‘I was looking exactly for that one’.

Other actors are the used things themselves that are given or obtained, which want to survive and be reused, as one of the interviewed said *“speaking about furniture, a lot of things they do not even get old”* (Actor 1), but maybe they get out of fashion or simply the owner wants to change them, even if they are not necessarily broken. However, some things could also refuse to be reused, as they may be built in a low quality and not designed for extended use, as one of the interviewed was reflecting *“the kind of things that we have nowadays and we can buy are they actually constructed for the continuous use? If you look over there, a lot of the stuff are not durable stuff. So, something should be done in developing more durable stuff and better design so it can*

have a continue value for reuse, to have a continue circulation” (Actor 8).

Finally, the free exchange of things in itself is also an actor in the network, since it allows people to reuse objects between them. This exchange can be made in person between people that know each other or it can be based on a system, as it will be further investigated later. Its main characteristic is that it is free, so it does not involve any payment, not even the barter. The free exchange wants to raise the number of people exchanging things for free between them and at the same time, wants to allow them to do it easily and efficiently.

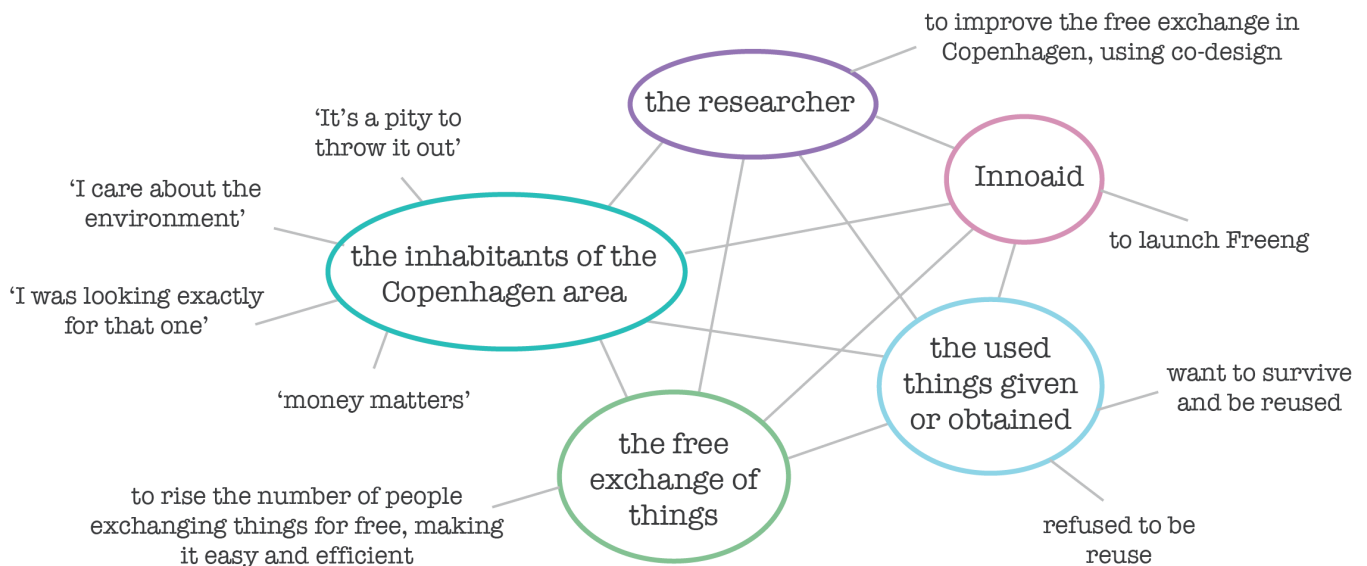


Fig.6: The main network with its actors and their matters of concern.

6.2. EXAMINING THE RELATIONSHIPS BETWEEN THE USED THINGS, THE FREE EXCHANGE AND THE INHABITANTS

As a next step of the problematization phase, it has been necessary to investigate further the relationship between the used things given or obtained and the free exchange, since, currently, in the Copenhagen area, there are already several

systems that allow people to exchange things between them for free.

The investigation has been broadened to include various kind of system that citizens can use in the

area when they have to deal with an object that they do not need any more or when they have to find an object that they do not have yet. Therefore, it includes also systems in which the exchange of used objects is made through money or the things are not exchanged between people, but merely trashed or bought new in a shop. This was made to explore how people relate when they are looking for something used, in comparison when they look for something new, but also the difference between an exchange with the use of money and a free one, and the motivations and reasons behind.

To organise the different systems, they have been mapped in two ANT maps, one of which is presenting the services that Copenhageners use when they want to get rid of a used thing, while the other is showing the ones people use when they want to obtain something new or used. Both include the existing systems that allow the free exchange of used things between people. Those maps are including the inhabitants of the area as a given since they are the one using the services for giving or obtaining things, even if they are not represented graphically on them.

6.2.1. GET RID VS OBTAIN

As said before, in the area of Copenhagen are present several kinds of options if a person wants to get rid of an object or is looking for one, and several of them can be used for both purposes. All those options provide a different kind of services, and they differ in several aspects.

In fact, some of them are physical, like a second-hand shop, while some of them are not, like digital online platforms connected to an app for the smartphone.

Some of them required money to pay for the service, like the flea markets (loppemarked in Danish) in which you pay the rent of the space for selling, while some of them provide it for free, like Tradono that is not asking the users money to use the service, or the container of Red Cross in which people can drop their unwanted clothes. In some systems, the people who are exchanging

Even if the services available in Copenhagen for the exchange of things are various, it must be pointed out that not every inhabitant is aware of all the different possibilities, which leads to the main issue connected to these services, the knowledge about them. In fact, as one of the interviewed stated, when asked if he would exchange things for free if he could get to know a system to do it, *“but how could I get to know it? I would need to get to know it. If I do not know it, I cannot use it”*, adding, *“if the system would be there now and I would know it, I would do it”* (Actor 7).

Since those different systems relate with the inhabitants of Copenhagen in various ways, it has been chosen to investigate one further, the DBA actor-network, including both its human and non-human actors graphically in an ANT map. This was made possible thanks to the principle of simplification of ANT, in which every network, which in this case is DBA, can be opened up to reveal the actors that is made of (Callon, 1987).

ing objects know each other, like when they exchange things between relatives, while in some others they do not, like when users people do that in a Facebook group with people from all over the area.

Moreover, they all required a different amount of time invested in them, since some are faster than other, like merely trash an object in the recycling station opposed to contacting people on a platform and agreed to meet somewhere to sell or buy an object.

They required a different involvement as well, like in the loppemarked in which people sell their objects, opposed to the loppeshoppen (in English a flea shop) in which people can rent a stand for their things, which are sold by the personal of it. They also have different purposes, like a charity purpose for Red Cross, but also, on the other hand, to get a little money in the loppemarked,

which for some people it is also considered as fun.

In addition, they have different structures, for example, a shop in which the things are sold by paid or volunteer shop assistants and the app in which the people themselves sold their objects without assistance from the app itself, that is just a platform.

Those services will be further investigated in the next pages, divided in the two networks of 'get rid' of things and 'obtain' things. In fact, some services are used only when a person wants to get rid of an object, for example when they trash

it in the recycling station, while some systems are just used when a person want to obtain a thing, for example when buying a new object in a shop.

The characteristics of those systems are going to be presented and analysed connected with what the people interviewed said about them, showing their motivations to use them and the controversies in their choice, with a focus on the free exchange. Furthermore, it will be investigated how the meaning of things is translated by the inhabitants to be merely trashed or to obtain a new value, depending on the service that they use to obtain the object or to get rid of it.

6.2.1.1. THE 'GET RID OF IT' NETWORK

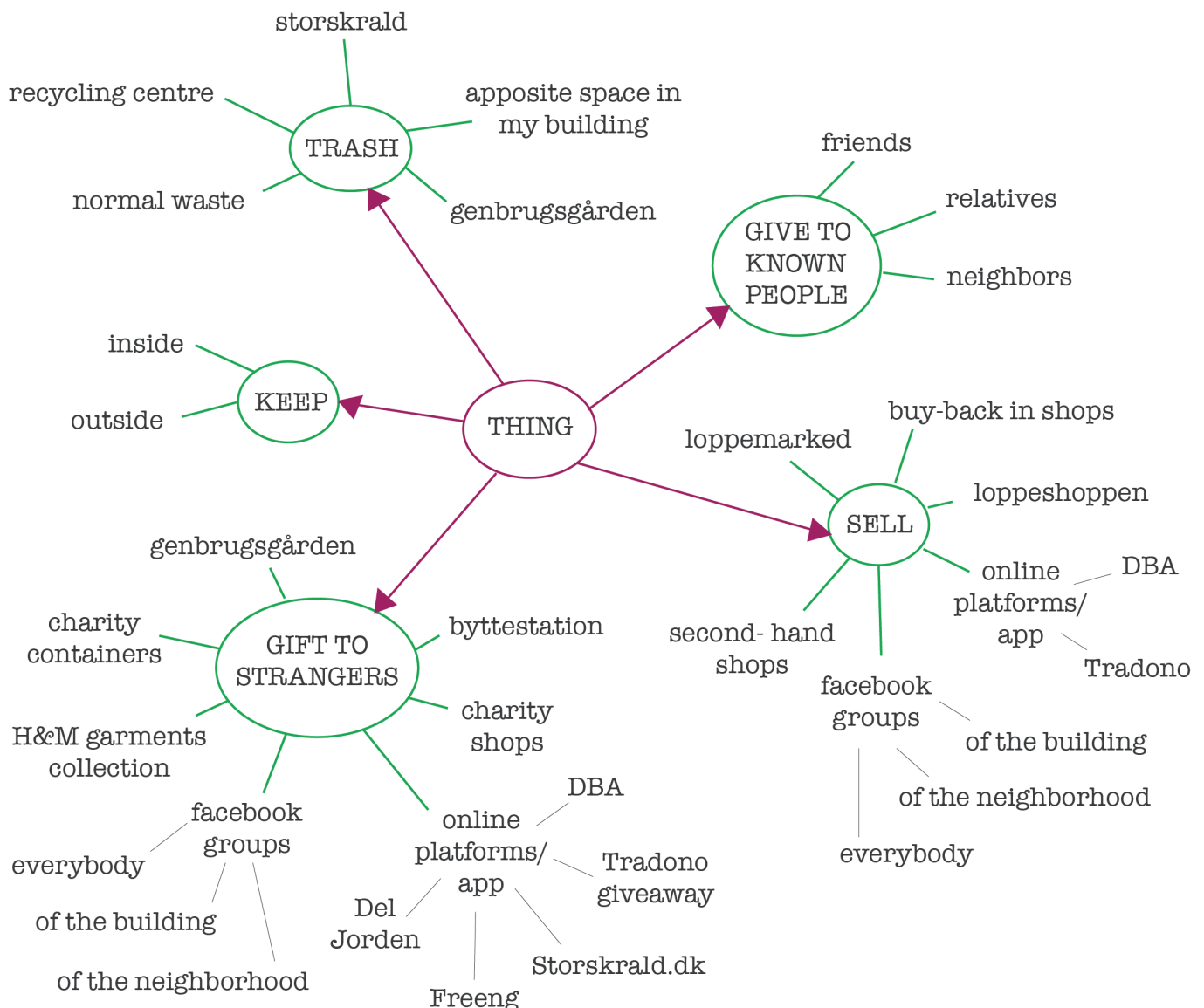


Fig.7: The 'get rid of it' network.

From the information collected at this point of the process, when the inhabitants interviewed have to deal with an object that they do not need anymore, they are going to keep it, trash it, give it to somebody that they know, gift it to somebody that they do not know or sell it. Which one between those five choices will be taken is depending on several factors, such as the affection towards the object, convenience, amount of choice, social and environmental concerns, etc. All those five options and the different services connected are illustrated in an ANT map (Fig. 7).

Storage possibilities

When the inhabitants decide to keep an object, they are storing it in a covered room inside, or in a space outside. That is mainly depending on if the actor thinks the object could be useful again in the future in some way. As one of the interviewees said, when asked what she does with an object that she does not need any more *"I put it in the storage, at the top of the building, I usually do that, typically. And then after a few years maybe I trash it or use it again, or give it away"* (Actor 4). However, this is strictly dependent on the existence of such spaces in the interviews' houses in which objects can be stored, as one of them said *"we have a storage at my girlfriend's house because they have a big house. When we were there, we went through everything that we would need in Copenhagen, and we left there everything that we would not need"* (Actor 2). Likewise, another said, *"we have two storages, one that is downstairs and then we have one up, that is more of furniture and old table that we had in the other flat, while the things downstairs are more clothes and shoes and things that we do not use in the winter or the summer. The furniture that we have upstairs we know that we are going to use them at some point"* (Actor 6).

While one other said *"then suddenly we got children, and we had to relocate everything, and we do not have space for this. We cannot store it because economically it is very expensive for us, but also, we are thinking when are we going to use it? So, it is better than someone else use it"* (Actor 1).

The characteristics of the storage affect heavily the durability of the objects inside, which is also connected to how well they are conserved by the

actors and which value they are given by them. In fact, one interviewee said that in their house they just have a storage outside *"like a house for our garden things and bikes and so on, but it is not heated so you cannot store all kind of stuff out there"* (Actor 8). Another one pointed out the importance of storing things correctly *"for example, we have these items in the basement, and we are keeping them in the plastic bag in which you can take the air out, but then maybe you have some items just in boxes and some animals will get to it ruined them"* (Actor 6).

Affective relationships

Several of the interviewees said that their first choice, if they want to get rid of an object that is still working, is to give it to somebody that they know, such as friends, relatives or neighbours. As one of them said *"my first choice would be a friend because it is much easier, cause if I have to put in on DBA I have to take a picture and write all that and if it is just to a friend I can ask do you want it and give it to them. It is about trust because they know that it works if I am giving to them"* (Actor 3).

One of the interviewees said that when asked if the process to give it to somebody she knows was easy, *"I think we talked a lot about it, actually. When I visit my ex-sister in law, she said how do you like this, do you want this? And I say no. Or she sends me an SMS saying that I am throwing this away, do you want it? No, I do not want it. So, in that way you can say we have a little conversation about that. And with some of my friends, I do the same"* (Actor 4). And she added *"if it is easy to get from the neighbourhood or from family or something it makes me save time. I have a table do you want it, yes, then I do not have to go to the shop or take pictures"* (Actor 4).

In addition, exchanging objects between family members is particularly relevant when having children, since they will use that object just for some months, and if there are relatives with children of the same age more or less, in fact, *"my brother and my husband brother got children in the same age as us so it was easy to find somebody in the near relation who needed it, more than others"* (Actor 4).

Moreover, finding somebody unknown who

wants to have an object that the actors do not need anymore could be a challenge, as pointed out by one of the interviewees when asked why he choose to give an object to somebody that he knows instead of a stranger *"because I do not know them! I do not know where to find them. If I could find them I could offer it to them, I would not sell it. I would give it to somebody that needed if I could"* (Actor 7).

However, one of the interviewees pointed out that the object should be of some relevance for him to bother his friends, in fact, *"if I have anything that I think is relevant for friends or people around that is my first step. I will ask directly to the person, not to everybody. Or if it is good stuff, like a pretty good bed. That sort of stuff I would ask. I would not write a list of people, and I would not post it on Facebook either, I do not appreciate other people spamming my field with their posts"* (Actor 5).

Nevertheless, one of them said that it would be easier for him to bring the object to his neighbourhood's *genbrugsgården* (recycling yard) since he would not have to transport it far away, and he would not bother his relatives or friends at all since *"it is also about not suggesting that they should have old stuff of ours because why should they? And not to disturb them"* (Actor 8). Even if he then added that *"it depends, of course, a bit about which kind of item it would be. If you have something that is of value for the family, then it is different. (...) But that would be about some special stuff that I knew would have a kind of value for them"* (Actor 8).

Objects as waste

When the actors decide to trash an object, they have several possibilities, depending on what their municipality, building or neighbourhood is providing.

The public services provided in the Copenhagen area are the regular waste collection, which follows different rules in each municipality, and the service that takes care of large items of trash (*storskrald* in Danish) that citizens can put outside their house, on the street, at certain days and times, so the waste collectors can come and pick it up. Also, there are several recycling stations spread around the area, in which one of

the interviewees said that she brings the objects that she would like to get rid of, *"I bring it there and they deal with it"* (Actor 3), but just if none of her friends or relatives wants it. Another one told about her neighbour that is building a new kitchen and is borrowing her trailer *"to get things to the recycling centre, instead of giving it to the Facebook group because it is easier since he has this trailer to borrow! What if he was without it?"* (Actor 4).

Most of the interviewees living in apartments have a proper space in their building, maintained from by a janitor, for trashing big items the that they do not need anymore, which can be picked up from their neighbours. In some cases, this space is open air, which does not protect the objects in it and does not make people willing to take the things in there, as one of the interviewees said *"you could (take objects from there), I do not think people do it, I have only seen really smashed up stuff there, and it is out in the rain. Like broken chairs, sofa, televisions"* (Actor 5). While in the majority this space is a proper room *"in which people can exchange stuff that they do not want, and anybody can go there and get whatever it is. People are getting things there for sure. Because I remember that we were cleaning the closet and we left some furniture there because we know that we were not going to use them. The things are large items, you cannot leave clothes, it is for furniture and lamps"* (Actor 6). This space is easy to access for all the people living in the building since it is very close to their apartments, as the *genbrugsgården* observed, since it that is situated in a walking distance from all the houses of the neighbourhood, so the inhabitants bring their stuff with different kinds of transport, such as wheelbarrows, bikes and electric wheelchairs.

In fact, it can be said that the choice between these options is strictly connected to the issue of the transport of them, that is the possibility of actors to bring their trash to the recycling centre, farther away than the proper room in the building or the *genbrugsgården* in their neighbourhood or just leaving on their street for the *storskrald*, with a suitable mode of transport such as a big car or a trailer. As one of the interviewees said when asked about why he put his old bed in the room in his building instead of bringing it somewhere else

“small car, big bed. Because smaller things usually I have been dumping them in the containers at the recycling site” (Actor 5). And another said “things that I do not need I will give them away or put them down in the room in the building in which I can put stuff. People in the building would probably take them. It is not because I would like somebody closer to get it, but it will be easier to put it there for me” (Actor 7).

Trying to get some money out of it

When the actors wish to sell their object, they have several possibilities available, which requires different levels of involvement from the actor itself and different kind of experiences.

There are some shops that have a service called Buyback, in which the consumers can bring some of his used electronic appliances and get money out of it, following some rules, such as Blue City, in which the staff assesses the product and give a price based on its conditions (Sælg til os, n.d.)

Another option is to sell the object to a second-hand shop, but also to rent a stall in the loppeshoppen to put the things, with a price, which are going to be sold by the personnel of the shop. This service was used by one of the interviewees that said *“I think it was 200 kroner for one week and then they sold it for 600 kroner and they you got 400 kroner and then I say ah. It’s not because you get money from it, it is instead of just trashing it. It’s not that worth” (Actor 4).* This service does not require the presence of the actors itself, in contraposition to the loppemarked (the flea market), in which the actors have to sell their things. However, the latter is a more inclusive experience, since, as one interviewee said when asked if he enjoyed *“yeah, it was nice, it was the first time that I did it, and it was a really great experience. Because you get a lot of contact with people and was also really interesting to see which kind of people were attracted to the things that I was having” (Actor 6)* and also another one added *“it’s things that I think they are too good to go but I do not want to put things in the DBA for 20 or 30 kroner (..) But it’s okay if you are there and you are selling things, so it is okay just to be there, I like that” (Actor 4).* Thus, for some actors the experience of selling their own objects in these setting

is helping to have a contact with people and create a deeper interaction, since made in person on a specific day in which people can have time to chat, as one interviewed said *“I feel like when somebody is coming to my place you just talk about the thing. In a small market, you can create a bond” (Actor 1).* In addition, in these setting the sellers have the time to tell the story about their objects, to explain the value behind, as when one interviewed sold a bag to a girl that *“decided to buy it because she knew that there was a story behind it that was convincing her, but at the same time for me was giving her a story and explaining what I was doing with it and where” (Actor 6).*

An option for actors that want to sell their thing is also to use online platforms connected to apps, such as DBA and Tradono, in which they can post their object with some pictures, and a description and other people can contact them to come and see and buy them. One of the interviewees used Tradono to post about his clothes and shoes, and when comparing it to DBA, he said *“it is easier, and you can see easily that you received a message with the notifications. They follow up really fast, I would say” (Actor 6).* Another actor said that she is using DBA quite a lot, *“I am a user, and it works really well” (Actor 1),* however, she does not think that these services are creating a community, but *“I am supporting the community, of course, this is a big thing. But I feel anonymous in the community. For me, a community would be that in my neighbourhood I would get some kind of network out of this” (Actor 1),* which is not happening with the apps since the connection between people is just limited to the exchange of the thing itself and happens quite fast. Also, the exchange is done with people from all over the area, mostly not with the neighbours, which otherwise could help to strengthen the bond in the local community.

Also, an option is to sell it on a Facebook page, which can be private, that is only of one specific building or one specific neighbourhood, or public and open to everybody.

However, if people are going to sell their object in the Facebook group of their building or their neighbourhood depends on the people itself, such as the group of the building of one of the

interviewees, in which people do not exchange things because, according to him *“I think that people are very private in their way of thinking so then you do not want to exchange with them this kind of information”* (Actor 6) but they have a room for that in the basement, in which people can anonymously put their unwanted objects allowing some others to pick them up.

Giving for free

Lastly, if the actors would like to gift their object to somebody that they do not know, they can choose between several physical or online services, provided by different organisations and communities.

One possibility is to give them to a second-hand charity shop, in which though it is necessary to go in their opening hours, or otherwise to put them in the charity containers collocated all around the area, accessible at any time but in which only certain types of objects are allowed. This is an option chosen by one of the actors since *“a lot of time I prefer to bring it to Red Cross or similar where I know that they do a better use, they will use it for sure. (...) There is another shop for children called moedrehjaelpen.dk to help mother so they can buy it very cheap. In that way, I am feeling better thinking that I am actually helping people that do not have the same resources as me”* (Actor 1). This feeling is shared by another interviewee that said, *“I will feel more like I am doing something good when I am giving something to Red Cross because I know that is going to something bigger and some activities that they could use the money for”* (Actor 6). It can be said that the difference between the objects that people are going to sell and the ones that they are going to give away is the state of them, but also if somebody will be actually interested in buying them. Moreover, can be connected to a larger picture behind it, in fact some actors are giving their object for free to charity mainly to help people but also because they think that they could not be sold easily. For example, one interviewees said that he bring things to sell in the flea market *“that I believe people can reuse, like they can use it immediately, in this weather or they are still in good conditions”* while he will bring to Red Cross things that *“are a little bit more things that will come back in time or*

people older could like them, but not the kind of people going to buy in this second- hand market” (Actor 6), so it depends on which kind of people are going to the market itself.

However, it also depends on the amount of time that the selling requires, in fact *“I am thinking more about getting back some of the money that I was spending on it, so I try not to sell it so cheap, but at some point, I just try to get rid of it, if it is taking too long time or too much energy”* (Actor 6).

Some shops provide the options of collecting old used clothes and give back a discount on their collections, such as H&M with their Garment Collecting service, launched in 2013 (Recycle your clothes, n.d.) in which one of the interviewees brought old objects that cannot be used anymore, such as shoes and shirts, since *“the important part is the material and not the conditions of it or the cleanliness or how they look. It is just about the textile and the material, to recycle it”* (Actor 6). The old garments are there sorted into three categories by I: CO: to be reused, to be turned into other products or to be recycled as textile fibres, with the profits surplus devolved to charity (Recycle your clothes, n.d.).

Also for gifting things to a stranger it is possible to use the Facebook group of the building, the neighbourhood or a public one, open to everybody.

One example of the latter is Free Your Stuff Copenhagen (ca. 2014), in which people living in the Copenhagen area can exchange things for free between them such as one of the interviewees did. He bought the wrong Ikea shelves, and he tried to give it back but was not possible, so he posted it there *“and then somebody just messaged and said I can pick it up in half an hour. On the Free thing, it is always pick up immediately. I just put the address, they came and texted saying that they were outside and then they took it”* (Actor 2). This service removes the problem of the transport for the giver, since usually, the receiver is getting it directly from the giver's house, thus it is a form of reciprocity, *“it is a way of helping them, because you are giving away like a wardrobe and it helps me that somebody is picking it up from my place, maybe I am living on the 7th floor. Because then we have to rent a car”* (Actor

2). Reciprocity is also the main reason why they did that, thanks to the fact that they *“had used the group (Free Your Stuff CPH) quite a lot before and we had quite a lot of free things, so we felt bad about asking for money for it, because we already took advantage of the group”* (Actor 2).

As well in the Vesterled Grundejerforening Facebook Group of Actor 4, people are giving out for free things, but only to their neighbours, often offering in exchange beers or chocolate, to make it fun and pleasant. The fact that are people living in the same neighbourhood is helping to strengthen the bond in the community *“even if you are not friends with them. It is more about people living in the same neighbourhood. And I think that people living here we are sharing the same kind of way to live and I like that people put things on it and you can take this (I gave you this poster for a beer or chocolate). I think it is funny! It is nice to see that you can find a way to interact and it is easy”* (Actor 4).

The theme of fun related to a service for the free exchange of things was also mentioned by another actor, saying that *“I think it must be boring! Because it will just take my time”*, then adding, reflecting about creating an interaction, *“I would not think that it would create a kind of interaction with people because they will just take it and go away with it, they would not know if it was me if I put it down. (..) It is unipersonal, anonymous. I would not feel a part of a community. But it's okay cause I just want to get rid of it”* (Actor 7).

One of the interviewees told about a Facebook group for baby clothes in her neighbourhood, in which they exchange things for free. She is using it mostly because *“depends on the quality, if it is old I would give it to free. Also, it takes a lot of time to sell baby clothes, so if we do not have a lot of time we just give it for free, put it in the group and somebody will pick it up at our place”* (Actor 1).

Several online platforms, sometimes connected to apps, can be used to exchange things for free. Some of them are for all objects in general, such as Freeng, Storskrald.dk (Storskrald.dk, 2017), the giveaway section of Tradono or the free things posted in DBA, while some are for more specific area of interest, such as Del Jorden (Del Jorden, 2017). In the latter, people passionate about gar-

den exchange plants, accessories, assistance correlated, garden events and such. Here actors can put pictures of what they are giving away but not necessarily since *“you wrote something really specific, it would be a particular plant, and then you say it's purple, and then they knew already which kind of stuff it is”* (Actor 3). The free exchange in this website is between people that do not know each other but are connected by another kind of interests, such as love for the plants, as one of the interviewees said *“I do not think I would do it to somebody that I do not know or feel any relationship with”* and added, speaking about feeling a part of the community in Del Jorden, *“I think I fell a part of this community because we all have the same interest, the garden, so when people give something away you know it has meant something to them. It is their passion”* (Actor 3).

On the other hand, in Storskrald.dk people can upload their unwanted objects so everybody can have access to them, as well as in Freeng, in which, though, people can also post a request if anybody is willing to give away for free a certain object.

A physical option for exchanging things for free between neighbours that do not know each other is the Genbrugsgården. In the one observed, local volunteers help people to consider if the object that they would like to give away can be wanted by somebody else according to *“their experiences of what kind of standard has it to be to be reused. Because otherwise it will just pile up and then they will have to throw it out later. So, it is about assessing if it could be something reusable or not”* (Actor 8). However, the service is just for the people living in that neighbourhood, which is a decision connected to trust, since, as Actor 8 explained, *“people are not allowed to misuse it, defined as somebody from the outside coming to take the stuff. There is a discussion about if it is a fair rule. But there is not mistrust inside the community. People are happy that you can use their stuff when they cannot use them anymore. That is because there is a mutuality in it, you can take stuff, and you can bring stuff. If you are coming from the outside, you are not bringing stuff, just taking them”* (Actor 8).

On the other hand, one physical option that is open to everybody is a byttestation, like the one in Vesterbro (See Appendix X), in which people can drop their unwanted items. However, since it is situated by a public road, it is more likely to be vandalised than one located in a more protected area inside a neighbourhood, so the whole service had to be designed keeping in mind a frequent and easy maintenance.

Things translated into waste or objects

To conclude, it can be noticed that the things to be given away acquire a different meaning according to which option they are placed in. This is connected to the motivations that make the giver choose one option instead of another, which could be time or reciprocity, and others, but also to the value that (s)he is giving to them.

In fact, even if a thing is valuable, it loses its status of object, and it is translated merely into trash if brought to the recycling station, in which it is treated accordingly by being thrown in the containers without care. Also, as observed at the recycling station in Gentofte, people are bound to spend as less time as possible there to get rid of things as fast as possible. It could be said that it is also connected to the place itself, the recycling station, which is not a fun or pleasant environment and it is not designed to be one of that kind.

On the other hand, if the things to be given away are sold or gifted, they are treated different from the giver, keeping their status of objects. In some case, the things are translated into the status of objects that needs to be in good condition to be wanted and able to be used by others, and therefore treated with more care and respect, as one of the interviewees said, *“if you are going to give something away or you are going to sell it then it has to be something that is still able to be used”* (Actor 6).

However, it can be said that how actors negotiate with the meaning of the things to be given to others depends on how they value the options of exchange that they choose and how they value the things themselves. The actors have different perspective, which could change also depending on which point of life they are, if for example they

are about to move and need to get rid of things fast, or they want to clear some space and get some money back from their things, but also according to which kind of things they want to get rid of.

In fact, one of the interviewees said that she usually gives away for free old children clothes, also because they are usually quite difficult to sell and it takes time, so, in this case, the free exchange is considered an easy way to get rid of old things fast. As another interviewee said: *“it is easier to put things for free, you do not need that many pictures or explanation as in DBA, but it is more difficult to get them”* (Actor 2). Also, another actor added *“I will put for sure thing that are worth a couple of hundred of Danish kroner because I would not bother to sell them so I might as well give them away for free. My time will worth more than the money I will get from them so I might as well put them easily there”* (Actor 5).

On the other hand, another interviewee said that *“we have been giving some kind of drawers because we did not need them and we were about to change them so we thought this is an opportunity for somebody that could get them for free”* (Actor 6). In this case, the main motivation for choosing the free exchange is since it can help somebody that need something.

Also, if the thing is perceived having a special value by the givers, such as family's objects, they will look for a system to give it away for free in which they will take a special care of it, as one of the interviewees affirmed *“I might have a consideration about if this space is safe enough to store it, if it is just going to be destroyed because it falls down from the shelves”* adding that he will choose *“a place in which they take a different kind of attention, and there is a high level of respect for the things. There are reuse shops in which they are more concern about things, and they are presenting them in a nice way, like in a shop”* (Actor 8).

6.2.1.2. THE 'OBTAIN IT' NETWORK

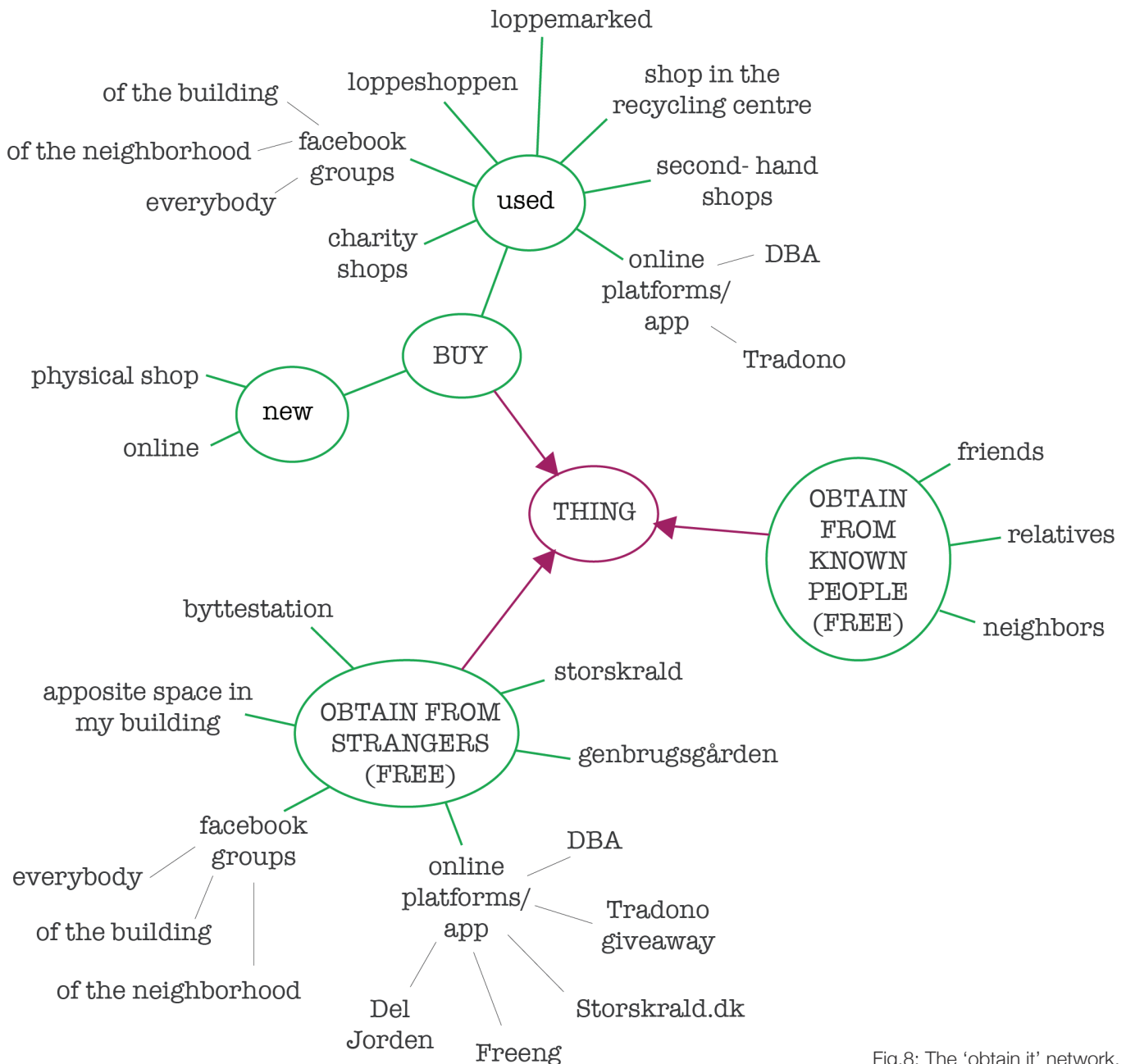


Fig.8: The 'obtain it' network.

When the actors interviewed in the Copenhagen area need something that they do not have, they usually choose between these options: buy it, new or second hand; obtain it from people that they know or obtain it from people that they do not know (Fig.8).

The convenience of buying new objects

If the actors want to buy an object that is new, they will go to a physical shop or online, for var-

ious reason. For example, one interviewee said he prefers to buy thing online since *"if you want to go to the shop you need to go when they are open, and you need to wait for staff to wait on me. Usually, I know before I buy what I want, just from reputations, online recommendations, etc."* (Actor 5), and another interviewee added that *"if it is something for my computer I will go on the internet because it is easy and sometimes cheaper. Because I do not want to run around and I am*

getting it brought to the door. So, it is more comfortable” (Actor 7).

For another actor, the point was that they “*will go out and buy it, if we need it. Also, because we can afford to buy stuff but we are not buying very much. We are not replacing things so often unless they are worn out. (..) We have not bought any furniture for the last 20 years almost. So, when we want something we want to go out and have something that is of a particular value, that we would like to pick up ourselves*” (Actor 8), while another interviewee said “*I think I would buy it, I think that’s the way we do it. I think that now when you have all the shops open all the time, all afternoon, on Saturdays and Sundays too, it was not like that 15 years ago, then is so much easier to get stuff*” (Actor 4).

Therefore, actors choose to buy new objects in the shops since they are used to think that it is the best option if they have enough money to afford it, since it is how they are used to do and they want to choose between a variety of things, which is connected to the quantity of goods available in the normal buying channels. They perceived that they would not have the same number of things in a second-hand channel and they do not want to spend the time to look for it because they can easily afford to buy a new object. It can be said that they are missing a motivation to use a service for the exchange of second-hand things.

The convenience of second-hand objects

Actors normally obtain things second hand because they are cheaper, as one of them said, “*instead of buying it new, when you pay 1100, then we buy it used, especially the chair for children*” (Actor 1) and another one explained “*when we did not have any money we used the free group. Because we were staying in an apartment that was furnished, but then we moved to another that was unfurnished so we needed many pieces of furniture that were expensive, like a bed and a sofa, etc.*” (Actor 2).

Another important motivation is that they know they are going to use that thing just for a limited period and change it fast, so they need a certain flexibility for things that are just transitory, such as

for objects for children, as one interviewee said “*for example, the cradle. I mean, we have two children, and they slept in it six months each of them*” (Actor 1). Moreover, she added, regarding moving, “*we live in a different world, so it is not like my parents that they still have the same furniture. We do not live very stable, we change really often. I have been living in this place for three years but before I was living in another place and the furniture I had to fit*” (Actor 1). As confirmed by another interviewee, “*it provided us a lot of things temporarily that were usable but not ideal. If you move in another house, you need to adjust so the Free service’s speed is important. You want to post it and get it over quickly*” (Actor 2).

One reason can also be because actors would like a thing that cannot be found any more in the current market, so they have a specific demand, as one interviewee explained “*I could not find the TV in a shop because they were sold out, so I looked in DBA*” (DBA) (Actor 5). Moreover, another one added, “*another thing is because now is not possible to find it anymore, so for example, we just bought a baby bed, and we wanted the original one that is from the 60s/70s so then we bought it second hand*” (Actor 1).

Another user explained that by buying second hand she avoids the need to make a choice since “*do you want this or that? I hate that. It is much easier, so I got this, I like it. You save time, and it is easy, and you do not have to make all those choices. Actually, sometimes I do not care, as long as I have something that I need and I think is practical*” (Actor 4).

Buying second-hand things

There are several services available for buying used objects in the Copenhagen Area, different for the kind of objects that they have but also the type of experience they provide, and so on.

One option is to go in the shops connected to the recycling stations, managed by the municipality, or in the charity shops run by NGOs. Another option is to go to the loppeshoppen, or the several flea markets present around the area, which is perceived from one of the interviewees as a different experience, more involving since “*you are*

putting more hours and effort in another way and it is fun! (..) But there you buy without so much necessity, you try to spot something interesting or unique” (Actor 1).

Another option is to go to the various second-hand shops spread around, in which they sell different kind of objects for different actors, such as shops only for children or only of vintage dresses. This is an experience particularly loved by one of the interviewees, which affirmed *“I love to go to the second-hand shops, there are some in Copenhagen but I prefer to go to the ones in the countryside, because the prices are not so high (..) And I believe that the people are selling things more because they do not want them any more that actually to make a profit out of it” (Actor 6).*

There are also several online options to buy thing second-hand, such as dedicated Facebook groups, but also the groups of a specific neighbourhood and of a specific building in which people sell thing to their known or unknown neighbours. Also, there are proper apps, such as DBA and Tradono, which has been used by one of the interviewee since *“I wanted to have some vintage place and there are a lot of girls that have been buying this stuff in second-hand market and, at some point, they just decide to sell them, I do not know if it is for business or because of the space for them. I contacted them and then it was really efficient and fast. It is a messenger kind of app” (Actor 6).*

The value of things obtained from beloveds

For the actors, an additional way of getting an object that they do not have yet is to obtain it from people that they know, such as relatives, friends or neighbours. Obtaining things thanks to these relationships has a different kind of value that getting them from a complete stranger, in fact, as one interviewee explained *“I remember that Stine, our girl, if she got things that were of Julie, the cousins, she would love it. So, in that way, it was very easy. She wanted to have things that were of her cousins instead of new stuff, in that way it was important that it was hers and not another one. And for Lasse too, I think his best friend was the cousin, and he was very happy to*

have stuff that was of him. For me, it was easy to get them” (Actor 4).

Moreover, sometimes it depends on being able to access the needed things, as it can happen on an island, for example, as one of the interviewees told *“I think that in the summer house everything is coming from one house or the other house, from the neighbours. Because it is an island, and it is very difficult to get stuff. So, in that way, there are much more things second-hand going on in that small island because you have to go to take the ferry and go to another place, if you need something. (...) Down there you have to use time, you have to use money to get it. So, they are more helpful because it costs, they know it is difficult” (Actor 4).* In this case, the main issue is about accessibility. In fact, the impossibility of being able to access easily to shops made people having to rely on the second-hand exchange, obtaining objects that are already on the island, helping in a way to create stronger bond in the community, since they all share the same problem of not being able to buy new things easily.

Obtaining it for free

Another option for getting things is to obtain it for free from people that the actors do not know, through various services. Here the main issue is about trusting the system and the people in it enough to use it and to obtain things from them, and which kind of things. All the interviewees agreed that they trust more a relative or a friend, since they know them and they know how they treat their objects, than a stranger, due to hygiene but also security, as one interviewee explained *“I would use a bed from a family of a friend that I know how they are, but I would not buy it second hand” and added “I think all the places in which you can find small animals I would not buy. (...) But hard furniture that would be okay, because they are resistant!” (Actor 1).* Nevertheless, one interviewee pointed out that seeing the person that is giving away an object is important to understand if trusting him, *“I think it means a lot when you see someone that is selling, which kind of person he is and which kind of life the items have” (Actor 6).*

However, it also depends on the economic conditions of who needs a new object, as one of the

interviewees said *“well now I would never take a bed but at the time we did not have any money, and we needed it so we replaced it when we could afford it, because it was quite small and not very good. If I had the money I would have bought it from the beginning, because of hygiene”* (Actor 2).

Things can be obtained going around the streets of a neighbourhood the night before the storskrald is collected by the municipality, even if that is illegal in Denmark.

Another way it is to go and check what the neighbours have left in the dedicated room in the building, or go and see what is in the genbrugsgården, in which thought it is necessary to pay attention and invest time since, as one of the interviewee said *“normally it is not really valuable things available there and if it is valuable thing then you would have to pay a lot of attention and pick it up when it comes in. That would require more time. Because in the yard there are people spotting when it comes really valuable thing and then they do not get stored. If it gets stored, often it is because it is not that valuable”* (Actor 8).

Otherwise, there are several Facebook groups that can be used, such as the already mentioned Free Your Stuff Copenhagen, vastly used by one of the interviewees that said *“it did take a lot of time, but it was worth for us. It is actually quite difficult because so many people post and answer as well. So, you need to keep track of it all the time and be the first person who writes. There is an unwritten rule that the first one that writes is getting it or the fastest”* (Actor 2).

However, he then pointed out the competitiveness of this page, which is not creating such an enjoyable environment to exchange objects for free, since *“you are trying to fight against other people to get the stuff and it is not a pleasant thing to use. We only used it because we had to use it. I would prefer to use something else, you do not feel good using it”* (Actor 2).

Another interviewee told me about the Facebook group of her neighbourhood for baby clothes, as mentioned before, in which though she does not take things so often because *“I am thinking that they may be families that need it more than*

me. If it is for free, I always think that another one needed it more than me. (..) I am thinking that I do not need to get it for free from others when maybe in my neighbourhood there are others that needed it more, that they cannot afford to pay” (Actor 1). How need is perceived varied greatly, according to the actors interviewed, and influences their choice of how to obtain and give things accordingly, as one actor said, *“and you also think should I be using this, maybe somebody else needs it more”* (Actor 2). For example, one interviewed said *“for me, it is important that only people that really need it get it. Maybe I give a bag of children clothes and maybe they will just trash some of them. You do not know where it is ending!”* (Actor 1), showing worries for people that take advantages of the system to obtain things that they could buy instead, since there are families in poorest conditions, which is connected to the issue of trusting the people in the system. However, another one stated that *“does not matter to me, as long as I have something that somebody else could need”* (Actor 3), supported by another one that affirmed *“it’s more important that I know that somebody will use it, so it could be useful, and if he wants to trash it then I do not care, but I hate to do it myself, I can feel that I hate it because it is still working”* (Actor 4).

Need is also connected to the necessity of the actors themselves to obtain things they do not have yet. In fact, it can be said that some actors are giving things away more than they take them, mainly since they do not often need new objects, because they have everything that they need, as one interviewee said *“I do not buy so much new stuff, but I am not using second hand so much, I get rid of things in second hand more that I buy, I think so. Because I have enough stuff!”* (Actor 4) and another one added, when asked what he usually does when he needs something that he does not have, *“that is a hard one, because I do not need anything. I have all that I need”* (Actor 7).

One more possibility is to look for free object in the proper section of Tradono, DBA or the platform Del Jorden and Storskrald.dk, as said before, in which though, as one of the interviewee affirm, when asked if she would take objects for free, *“yes, definitely. The problem would be to find*

them. And also, from this sink for the plants, you can get quite a lot of money, so it is not something that people give away for free" (Actor 3). This issue is connected to the number of available things in a certain service, which is depending on how many people are using it and exchanging objects, but it is also related to if the system is known by enough inhabitants. The quality of the things available on the system is also affecting if people are going to use it or not, in fact, as one interviewee said *"I would be more inclined to put good stuff there if there was already an abundance of good stuff because then it would look like no one is just taking it just because they can. I would feel like I would be a lot more inclined if I actually got something before"* (Actor 5), which is once again connected to the issue of trusting the people in the system and the objects that they are putting in it.

Things as brand new objects or second-hand objects

To conclude, it can be seen that some of the interviewees tend to buy their things in the regular market, which is connected to the huge availability and variety of things in there, but also to the easiness and fastness of buying them in a shop or online and, lastly, to the way certain people are used doing, as one of the interviewees said, *"I think that for this generation is like that, maybe for the new generation is not, maybe it is easier for them to share"* (Actor 4).

It can be said that a thing bought brand new acquires a different meaning and value than a thing bought second-hand, in many different ways. In fact, the latter has a history connected to the people that owned it before, which can be seen in the scratches or perceived in its smell, as one of the interviewees said, *"it is interesting about recycling and reusing. Even when it is a plate or something, where does it come from or about the life behind it"* (Actor 6), adding *"the history behind it gives a lot of meaning for you to accept even if something is donated"* (Actor 6). On the other hand, a thing bought brand new has no history of ownership before, but it is a clear space ready to have one.

Also, obtaining things second –hand has a connection with the style of them, and the style of one house furnished with many of them with different ages and provenience, for example, as one of the interviewee said, when asked if she was looking for second-hand furniture that matches one style, *"it is not about one style but it is about a lot of styles and I like it"* (Actor 4).

However, most of the interviewees will never consider buying second-hand some type of objects, such as underwear or a mattress, which is connected to a perceived insufficient grade of cleanliness and hygiene of the used thing itself that is very different from how a new one is seen. Therefore, even if these kinds of objects are used but in a good state, they are translated into something unworthy and risky to take by some of the actors, which would not be the same if the objects were new.

Finally, obtaining things by second –hand is allowing to save money in various ways, since *"I can save money, because I do not need to buy it, or I can get money back"* (Actor 6) by selling it. Therefore, if a thing is obtained for free, but also bought used for a lower price, it has a meaning of saving for the receiver of it.

6.2.2 THE DBA NETWORK

As argued before, it has been chosen to open up and further investigated the network of DBA and map it to analyse and discover the actors-networks in it and the relations between them, for several reasons. DBA is the most used service for the exchange of second-hand things in Denmark, thanks to it 1.6 million monthly users, which represent the 37% of Danish internet population (Om DBA, 2017). Moreover, most of the interviewed has used it at least once to sell or buy used things, since it has an extensive library of items, and it is spread all over Denmark, as one of them said, when looking for a model of TV he could not find anywhere else *“I looked just in DBA because, as far as I know, is the biggest in Denmark”* (Actor 5).

The DBA network is going to be investigated bringing the human actors into play, to see their relationship with the thing, the other users of the system and the system itself, connecting it with their motivation to do so and their approaches to it, based on the information collected in the interviews. This will give more insights on the process of the exchange of used things between people. Therefore, four entities are the key actors in the network, as illustrated in Fig.9, which are the seller, the thing, DBA and the buyer.

Even if most the exchange of things in DBA happens with a money payment, and this thesis is fo-

cusing on the free exchange, it is useful to look at how people approach app and online platforms for the exchange of things with other people, without any other people involved, such as shop assistants or volunteers, as in the charity shops or the normal market. Also, the service of Innoaid for the free exchange of things, Freeng, is also an app connected with an online platform.

The whole network is displayed in an ANT map that follows (Fig. 10), which, to make the various steps clearer, will be analysed in parts in the next sections, following what a user does when he is selling or buying something in DBA, such as making the announcement of the thing or searching for it.

In all the following ANT maps regarding DBA the various actors have been divided into non-physical objects, such as the rules of the platform; concepts, as trust in the system or among the users in it; human actors, such as the buyer of the thing; physical objects, such as the thing itself to be sold; locations, such as the announcement in which the information and the pictures of the item to be sold can be found; and actions, such as trading for the price of the thing to be bought.

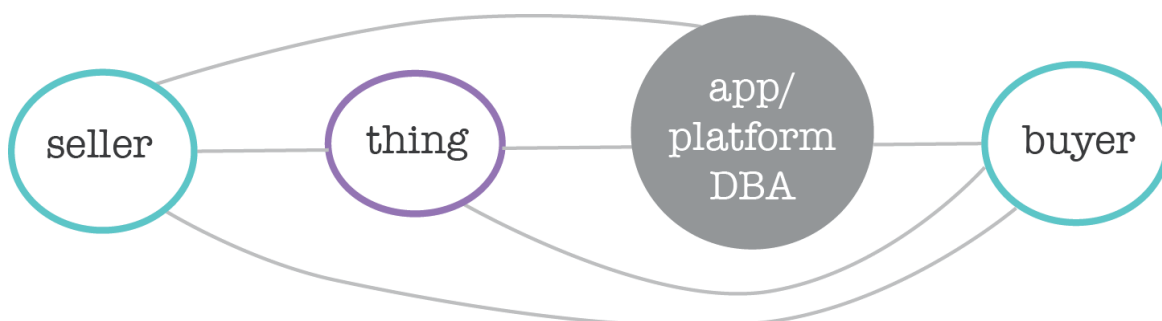


Fig.9: The four main entities of the DBA network.

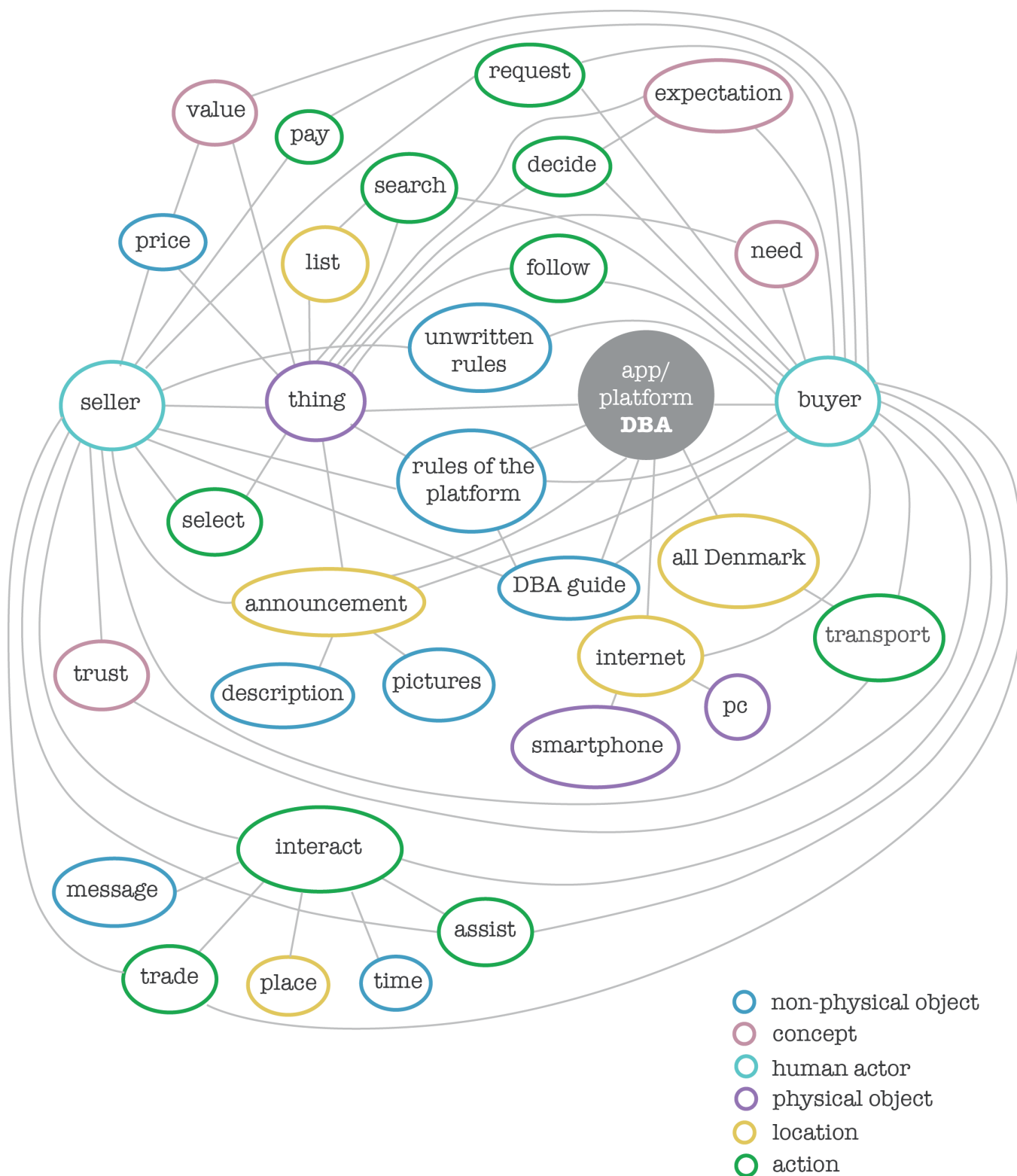


Fig.10: the DBA network.

The announcement of the thing to be sold

The first thing that a person does when approaching DBA is selecting which kind of object (s)he wants to get rid of or obtain. It is important the state in which the object it is, since, as one of the interviewee said, “you want to make them look pretty and clean them so people can reuse them” (Actor 6). To use DBA, it is needed to have access to the internet and a device to access it, such as a smartphone or a computer.

According to the interviewees, it is important that the object is valuable enough to be sold for a certain price to get through the involvement required to use the app. As one of the interviewees said, when asked which kind of objects she sells in DBA “mostly things that I know I will never ever use it myself and thing that I know have a little value, you can get a little for. For example, I had some boots, and they did not fit me and okay 300 kroner I think I can get that, so I put in DBA. (..) But I do not want to put things in the DBA for 20 or 30 kroner, it should be a little more. Because I do not want people to come here to get a little. (..) And I do not want to be at home to wait, and they call me, so in that way, I think should be things with more value. 300 or 400 kroner or something” (Actor 4).

In fact, all the interviewees agreed that the service provided by DBA does not make them save time, on the contrary, but they do it for other reasons,

as one of them said “the app is not fun, it takes so much time, is horrible! I do it because there are other things that give me satisfaction but not for the fun of selling things” (Actor 1). Supported by another one “if I want to donate them I have to take the time to filter, clean them, take pics, upload it on the platform and following up on who wants them, what time this person can come and pick it up and things like that. It is a big process. People do not really have the time” (Actor 6).

The service give the possibility to put some pictures of the object and a description, according to its rules and its guide, which should be as accurate as possible to not create the wrong expectation and be sure that the people contacted once seeing the object will be really buying it, so as one of the interviewees said “normally people expect that the pictures and the text you are writing are so well described, so when you go there is because you know that you want to get it. If it has a scratch, you always put a picture of it” (Actor 1). The advertisements with pictures and description are preferred from the actors since as one of the interviewee said about contacting a user “without the pics, I would not have contacted him, I prefer to see. It does not seem very serious because it is so easy to take a pic that if you do not do it, there must be some weird reason you did not’ do it. I would not trust the add. And without the description as well” (Actor 5).

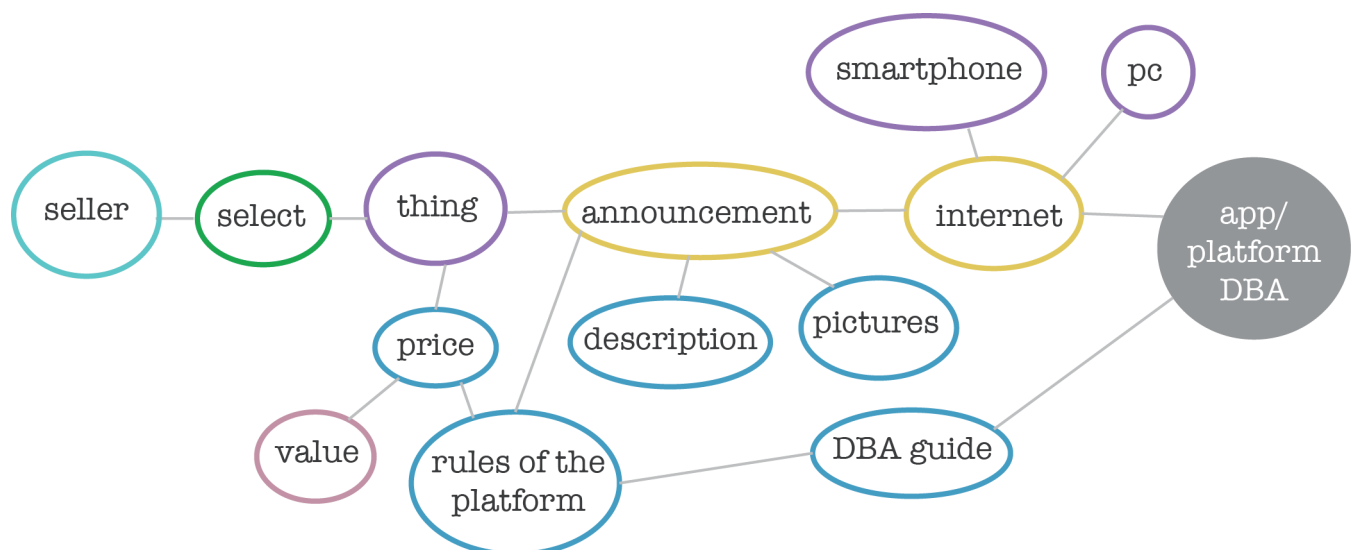


Fig.11: The announcement of the thing to be sold.

The search for the things

The service allows actors to look for what they need by typing in its name and press search, as one of the interviewees, said, *“in DBA is more about something that you need and you look for it”* (Actor 1). It is also valuable from the point of view of the sellers, which knows that he has more chance to be able to sell his object there that somewhere else, since as one interviewee said, *“you go directly to people who ask for things for the motorbike, when you go to a loppedmarket you do not know how is coming, so you could have this shoe there and nobody would have it. So, I put it in the DBA if I think that there could be somebody that could need this. So, in that way is much easier. In the loppedmarked is everything”* (Actor 4).

Actors are looking for the object that they want going through the different lists (such as bikes,

houses, clothing and fashion, etc.) in which they can select various options depending on the item (like the brand if it is a garment, etc.), the price range and the distance from them. It is also possible to follow objects and select the favourite, then the service will alert if something is changing the price.

They will then decide which object is more responding to their need according to the advertisement of it, the price and its location in Denmark. The fact that the service is present in all the country and has many objects in it can be confusing sometimes, as one of the interviewees said *“I think DBA is it more like all over the country so sometimes you get lost in the research. (..) So, I could find something that is available in Jutland, or it is not available anymore, or the person made the announcement long time ago and it is not answering and checking their account”* (Actor 6).

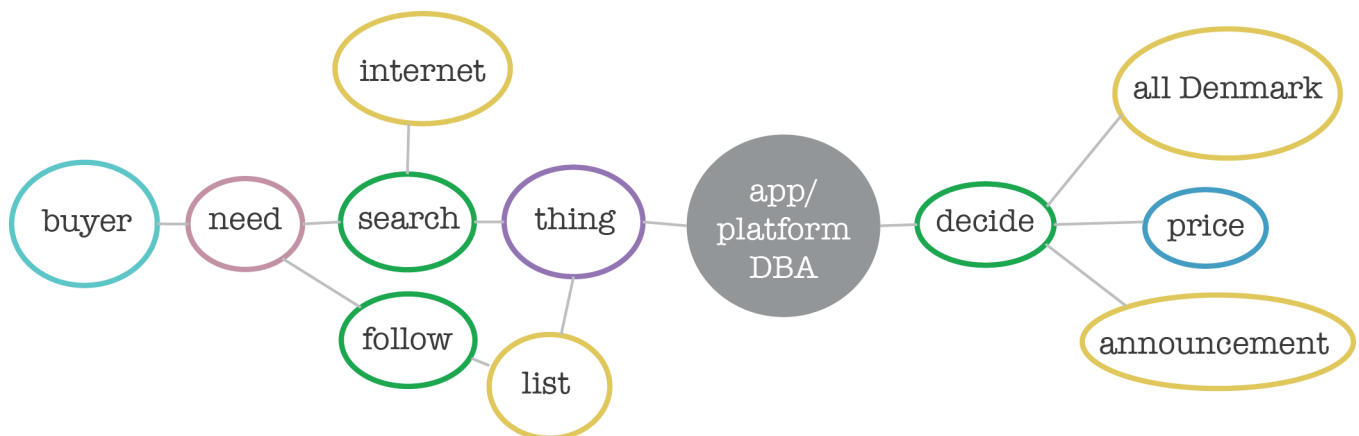


Fig.12: The search for the thing.

The interaction happens

Then, once chosen the object that they need they send a request by message to the seller of it, usually asking for more information, starting the interaction with them, which is not always perceived as pleasant by the actors, as one of the interviewees said *“I think is horrible cause you have to take so many pictures and then people are writing, how many centimetres is this, does it look okay, people are asking so many things. But I also understand”* (Actor 1).

Usually they also trade for the price, according to how they perceive the value of the object, following an unwritten rule in which, as one of the interviewee said, *“you put a price, and there is an unwritten rule that normally if you sell thing for 200kr you know that you are not going to get it all, it is really rare. So normally you put a bit more, like 200kr, to get 180kr, because people always try to trade. (...) A person is writing to you, and they try to trade, and you can lower the price if they come to get it really early”* (Actor 1).

When the two parties agree on a price and on a time to come and see the object, they also agree on a place, which according to both wishes can be the owner's house or the buyer's house, and on how to transport the object itself, as one of the interviewee said: *"if they live in Copenhagen we will drive and deliver it, because we do not want them to come at our place"* (Actor 3), while another one told me *"I went to pick it up one day, I went to some weird place. (...) I think he actually insisted that I went to his apartment and checked it out before"* (Actor 5). This exchange could also be perceived as interesting to do, as one of the interviewees said: *"we tried to find stuff in DBA and it is interesting because suddenly you have access to other people premises and see how they live and talk to them and that could go both ways"* (Actor 8).

When the buyer and the seller are meeting in person there is a kind of interaction that, anyhow, it is usually just concerning the object itself, making it a quick interaction, as one interviewee said, *"it is just a fast thing, so ok somebody is coming and I will do it in 15 minutes"* (Actor 1).

The buyer then decides if proceeding with the purchase, but normally he decides for yes, since he already went there, so it could be said that sometimes the buyer could feel forced to proceed, however, there can be cases in which the

object it is not getting on his expectation. Nevertheless, this is also depending on the different perception of objects that people have, as one of the interviewee said, speaking about a baby chair for the car, *"it happened with one of the thing I saw because they said it was so new but I could not trust, because for me was very bad, I could not even trust if this was involved in an accident"* (Actor 1).

After the purchase is made, usually by cash or mobile pay, the seller can decide to provide assistance to the buyer, but which it is not expected in the system, so it depends on the user itself and the level of trust between them, and there can be various grade of assistance, as one interviewee said *"we kept in touch for a few months afterwards because there was a problem with one of the 3d glasses and he offered to replace it. I found the problem after and write to him, and he said just come to the store, no problem"* (Actor 5). While another one added, when explaining how she sold her trekking boots *"she liked them and took it. And then I say if you try them and you do not like them, just come back. And she did not. So instead of just maybe not, I said okay pay and just come back. And I did the same with the other things"* (Actor 4).

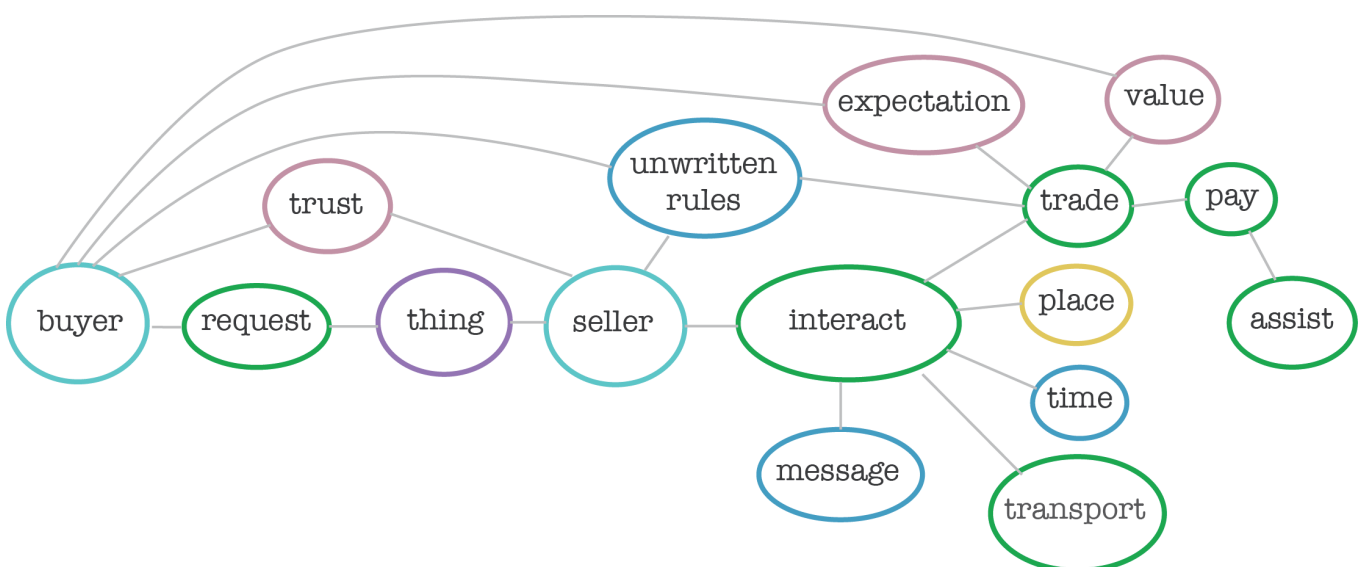


Fig.13: The interaction happens.

6.3. TOWARDS A DESIGN CONCEPTUALIZATION

As widely explained before, in the Copenhagen Area there are many systems that allow the free exchange of things. All those different services respond to the different needs that the variety of people living in that zone have at the different points in their lives. In fact, as it can be noticed in the quotes from the people interviewed spread all over the previous pages, they all have different priorities and different point of view concerning which system for the free exchange they prefer to use, and why, but also regarding when they have to use it and for which kind of object, and the kind of experience that they want to have with it, thus different matters of concern.

It can be said that in all the services for the free exchange examined previously, first of all, the person must know about the existence of the service and the possibility of using it for getting rid or obtain for free an object, but also, he needs to trust the system, the people and the things in it to use it. Secondly, it must be convenient for him to use that system, according to his priorities. In fact, people choose which kind of service they want to use according to their various preferences, which could be the transport needed, the time required, the type of interaction with people they are looking for, but also the kind of experience they want to have while using it and the number of things available in that system, their quality or how they are treated and gifted.

Each service responds to the priorities of the users in different amounts, favouring one aspect more than another. For example, in an app like Tradono it is easier to find the wanted things going through the proper section on the phone and contacting people, even if the time required to contact the giver and decide a time and place to get the thing could take time, while the interaction with the person will be minim, such as the fun in the experience. On the other hand, in the genbrugsgården it would be more difficult to find the wanted things, due to the limited number of objects available, but the interaction with the people there could lead to interesting conversations, and

the experience of digging into the different items could be fun.

Also, the priorities of people change according to in which period of their life they are, for example, a person could have less time when about to move to a new apartment and in need of getting rid fast of the things that cannot fit in the new place.

In addition, the same person could use one service for one scope, for example to get rid of old children clothes giving them away on a Facebook page saying that they need to be picked up immediately, to help people in need while clearing space faster, while using another service for a different scope, such as finding something interesting in the byttestation in their neighbourhood while having an interaction with the people going there, to browse what could be useful and unique at the same time, such as a decorated cup.

Also, every person has a different perspective of how those priorities are satisfied in the services, such as one of the interviewees that said he prefer Tradono than DBA since *“it was very visual and easy to find there, because it is organised by categories and then you can just go through them really easily. While in the DBA you have to look into a very large library and sometimes it is not so clear”* (Actor 6), while another one said, *“I am looking only in DBA, because in the other apps you cannot do search, so you have to go and look at all the stuff”* (Actor 3).

As explained in the Problem Area, it is indubitable the environmental benefit behind the reuse of used things. The various services available in the area of Copenhagen to do so are working together to help to reduce the amount of waste made and, at the same time, they are helping people to get for free objects that still work.

Having a variety of services allows to better respond to the different priorities of the inhabitants of the area with the final aim of increasing the reuse, but how to make people know all the different options available to exchange things for free? And how to make them use these options more?



7.

CONCEPTUALIZATION

THE SECOND PHASE OF THE PROCESS OF TRANSLATION: THE INTERESSMENT

The second phase of a process of translation, according to ANT, is the interessment, in which the identities of the actors are identified and stabilised to build a system of alliances that will support the solution to be designed (Callon, 1986). In this thesis, the interessment phase consisted in, first, negotiating and exploring the problematization with the various actors, then in interesting them in the design process, using the concept of prototyping space (Pedersen, 2016a) as an interessment device.

A total of seven prototyping spaces have been staged to interest the different actors in the problematization proposed and in the design process, to explore how the final solution could be conceptualised and if those actors could be a part of the new network needed to support its realisation.

In each space, the problematization presented to the actors invited was 'making the people in the Copenhagen area to know and use more the different services for the free exchange', and its validity was discussed, to be accepted or rejected by the actors.

Each one of the prototyping space was staged with different actors, chosen for different reasons, and staged with different purposes.

Hence, one of the prototyping space was staged with the internal actor, Innoaid, while the other six were staged with different external actors, such as the inhabitants of Copenhagen Area; the municipality of Copenhagen; two systems for the free exchange of things, Sharepeeps and Storskrald.dk; one no profit organisation that is working with reuse, Byttemarked; and a no profit organization working with sustainability in general, UngEnergi. Each of those external actors was chosen accordingly to its relationship to the problematization, such as the system for the free reuse that

may share the same challenge highlighted in the problematization of being made more known and used by people. Or the non-profit organizations that are organising activities in the sustainability area, also regarding reuse, which thus have knowledge on how to advertise and promote the reuse itself by setting up events or such, or the municipality of Copenhagen that aims to increase the reuse in the city and may support the new solution.

The purpose of the first prototyping space, staged with the inhabitants, was to co-design some possible solutions that have then been displayed in cards to serve as boundary objects in the following spaces, to be discussed and evaluated with each actor, to define the final solutions, the strategy to achieve it and the network needed to do so. Thus, every prototyping space brought insights that were then integrated into the subsequent one to be discussed and negotiated with the other actors. In this regard, for example, the map of the existing services for the free reuse (Fig.18), which will be shown later, was updated every time that actors were mentioning a new service that was still not included in it.

Each of the prototyping space was staged and navigated by me, and I took the strategic decision to interest one actor at a time, considering Sharepeeps as one actor even if I speak with two of the founders, for example. I did this to facilitate the dialogue and to prevent them from influencing each other, but also due to the impossibility of gathering together on the same day and at the same time that number of actors.

7.1. THE FIRST PROTOTYPING SPACE – THE INHABITANTS

The first prototyping space was staged to co-design together with two Copenhageners some possible solutions to make the services for the free reuse more known and used by the inhabitants of the Copenhagen area. The limited number of participants was enough to stimulate a full discussion but, at the same time, it avoided the risk of having a dispersive meeting, which could have happened if more people were involved.

The two participants were invited to the space to prompt a discussion, with me as a facilitator, about how to make people known and use these services more, according to their four matters of concern identified previously. In this way, it can be said that the inhabitants of the area were represented by the two participants reflecting and identifying (or not) themselves with the four citizens symbolised by the four matters of concerns, as shown in Fig.14, that was used in the workshop as the Inhabitants Card.

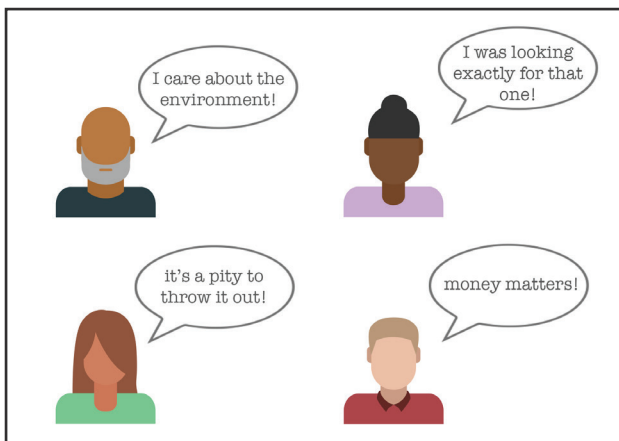


Fig.14: The Inhabitants Card.

The interaction took place in one of the meeting room in Aalborg University Copenhagen. The room had a table in the middle and white walls and acted as a neutral location to assemble two participants that did not know each other before.

The workshop was divided into two main part. In the first part, I introduced the different services for

the free reuse discovered until that point and the four matters of concern of the inhabitants of Copenhagen, and then the issue that they currently do not know the existing possibilities enough was presented.

A picture of each service was shown in the Service Cards (Fig.15), which were then shortly described and glued on the wall to act as a continuous inspiration and reference throughout the meeting, such as the Inhabitants Card with the four matters of concern of the citizens. This was made to communicate the current possibilities available and make the participants related to those existing services to realise solutions for how making them more known and used, according to the matters of concern of the four citizens presented in the Inhabitants Card.

The participants promptly agreed that they did not know many of them, accepting quickly the problematization of 'making people in Copenhagen to known and use more the different services for the free exchange'. They reflected that even the service offered by H&M, the Garments Collecting service, is not that known, even if they are a big international brand, as one participant said *"we never saw anything online, on TV, etc. because they do not actually advertise it so much, but they have amazing commercial on YouTube! If they would put them on TV, I am sure that people would take part in the initiative!"* (Participants 2). Already at this point of the interaction, it can be noticed that the participants quickly started to exchange their knowledge with me and in between them, as they did thoroughly for all the meeting. Then, a conversation about greenwashing arose, as one participant said that some companies create initiatives just to look more sustainable than they actually are, saying *"you cannot convert a brand in a sustainable one just because of producing one pair of trousers of the whole collection with 20% of recycled material!"* (Participant 1). Once again, this is connected to the knowledge about it, since, as the participants concluded, if

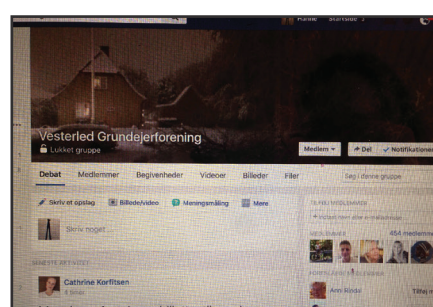
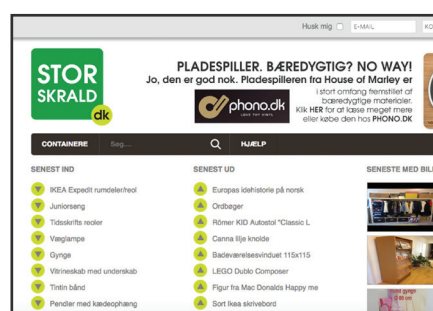
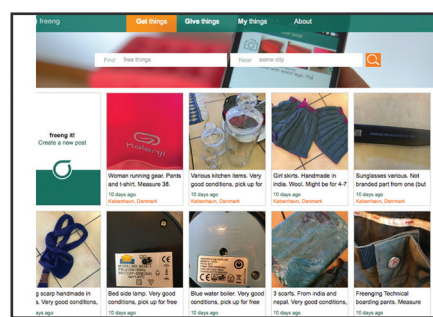
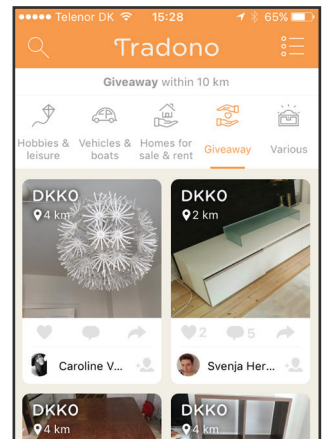
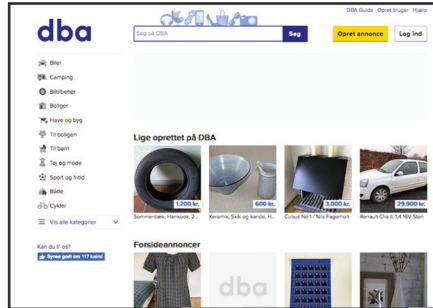
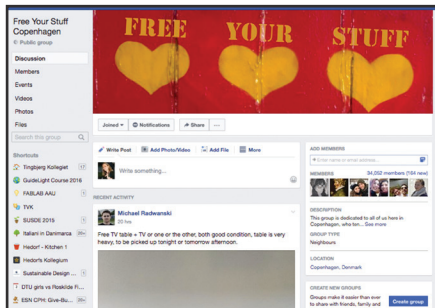
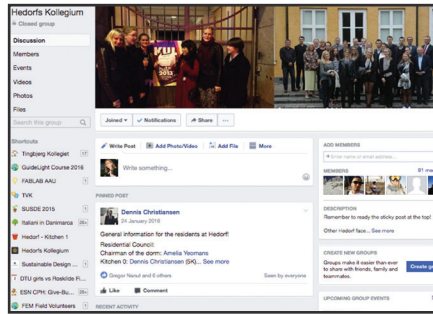


Fig.15: The Service Cards.

people would have enough knowledge about the processes and the back story maybe they would not buy from certain brands anymore or behave in a certain way.

The second part was divided into four internal sessions, in which the participants discussed possible solutions to make the services for the free reuse known more by each one of the four citizens, according to their four matter of concerns. To do so, one Solution Worksheet was given to the participant in each session, one for each matter of concern. Each worksheet had the imagine of one citizen on it with his/her matter of concern, with a blank space for the participants to write their solutions and thought (See Appendix G). Also, some Inspiration Cards (Fig.16) were placed in the middle of the table for the participants to consult and being inspired by. Those inspiration varied from being strictly related to make people reuse more, such as awareness campaign, to more general ones related to reusing and recycling objects, such as the Pant collecting system in Denmark, in which people get money back from plastic bottles and cans, and more general ideas about events, like a concert or an art exposition.

In the first session, the participants explored how to make the citizen whose matter of concern is 'I care about the environment' to know and use the services more. The participants agreed on the fact that information about those service does not just pop out, so if somebody is concerned about the environment (s)he will probably research about how to lower his impact, as one said, *"most of the time you know about things is because you ask, because you into it, we search, otherwise those information does not just come"*, adding *"I may have one of those solutions in my neighbourhood, but I just do not know"* (Participant 2). The participants were engaged and full of ideas to increase the knowledge and the use of the free systems, being perfectly in line with the problematization, as one said, *"so everybody will know exactly what is going on in Copenhagen. There are so many things going on and we just do not know about them"* (Participant 2). They then reflected about who can organise these events or solutions, which could be the municipality, or the

various NGOs in Copenhagen that are doing sustainable projects, but also the communities themselves. However, one participant then pointed out that this kind of initiatives needs to be thought through since *"problems bring to other problems! It needs to be organised!"* (Participant 1).

The second session was about the inhabitants of Copenhagen whose matter of concern is 'money matters'. The discussion started from the Pant system implemented in Denmark, saying that could be good if people could get money back also from bringing their unwanted object to a reuse centre, instead of trashing them in the general waste or in the storskrald, at least at the beginning to make the good practice start. In fact, connecting some sustainable measure with money could make people use the services for the free reuse more, such as the H&M garment collection in which people get a discount on the next purchase when they bring their old fabrics. Thus, a discussion arose about the level of education in sustainability that people have which could come from school, from parents or friends, but also from social media, to be aware and critical about the various solutions, since people *"need to have the capabilities to discern from real sustainable solutions or not"* (Participant 1). Education then will make people discern and adopt a more sustainable behaviour, such using a refillable glass bottle instead of buying plastic bottles every day, since *"it is possible to do same change. It does not take too much effort to do some changes, that is the point"* (Participant 2). The education is also affected by the different possibilities that people find in the shops, which is connected to the laws introduced by the state, regarding plastic bag for example, as one of the participant said, *"in Brazil they are using a soft kind of plastic for the bag, so they are forced to use one inside the others otherwise it will break. It is cheaper for the supermarket to buy the thin one but then they use more!"* (Participant 2), adding that there the plastic bags are free for the consumers. That made everybody reflect on the fact that if people would have to buy three plastic bags instead of one because they are made of thin plastic, maybe they will start to bring their own bag.



Fig.16: The Inspiration Cards.

In the third session, it was debated how to make a person who is ‘looking exactly for that one’ to know and use the services for the free reuse more, since (s)he could be looking for something that is not in production any longer. However, one of the participants immediately pointed out that *“It has nothing to do with sustainability!”* (Participant 2) and probably if somebody would be looking exactly for something they will pay, even in a second-hand shop.

Then, a discussion arose about the behaviour that people tend to have towards objects, as one of the participants said, *“people were fixing stuff in the past, nowadays you just trash it!”* (Participant 2), adding though that are emerging some schools in which people are taught in how to repair their

broken things, which is slowly becoming trendy. Finally, the fourth session was regarding the citizens whose matter of concern is ‘it is a pity to throw it out’, at which one of the participants immediately exclaimed: *“that is me!”* (Participant 1). Both the participants explained that they have a space where they live in which people can leave things and get others, in which though *“you need to be lucky enough to find something usable for you and in a good condition!”* (Participant 2). However, in the dedicated space for the reuse of Participant 1, a room in the yard with a locker, things are accumulating faster and after a while they are brought to the incinerator, if not taken, due to the fact that *“everybody has living there for many years so nobody will take them”* (Participant

1). A fact confirmed by the other participant that said, *“after living in a space for so long you do not need more!”* (Participant 2). Adding that, on the other hand, in the space for the reuse of the student dorm in which she lives there is a constant flow of things since people are leaving and moving all the time and *“there is always somebody leaving something behind, and there is always somebody needing something”* (Participant 2). They were both agreeing that if things are not taken by anybody in the space in which they are trashed it is a waste of resources and it should be possible to connect these things with different users, then adding that people use those spaces in their neighbourhood or building also if they do not have a car to bring it to the recycling station, and that could be provided by the municipality. However, they then closed the discussion saying that *“it is a big investment to provide a service of that kind”* (Participant 1).

To conclude, the participants were, firstly, able to relate to the Services Cards and the Inhabitants Card easily, identifying themselves with some of

the citizens’ matter of concern, which then both worked effectively as boundary objects, as the Inspiration Cards. Secondly, there were surely able to transmit their knowledge to me, through writing in the Solution worksheets but also by just talking about them, stimulating a discussion that touched several interesting points, such as education and greenwashing.

However, it can be said that was challenging for the participants to propose solutions inside the frame of each one of the four matters of concern of the citizens, and it was easier for them to talk than noted or sketch down some ideas in the worksheets. Nevertheless, the resulting conversation resulted broader and gave several inputs to summarise their various proposals and thoughts translating them into eight possible solutions, which have been then shown to the participants in the following prototyping spaces.

Therefore, the two inhabitants were interested, and they were negotiating about how they, but also the other inhabitants of Copenhagen, could be made to know and use the services for the free reuse more.

Ps1 - The interaction with the **inhabitants** (external actors)

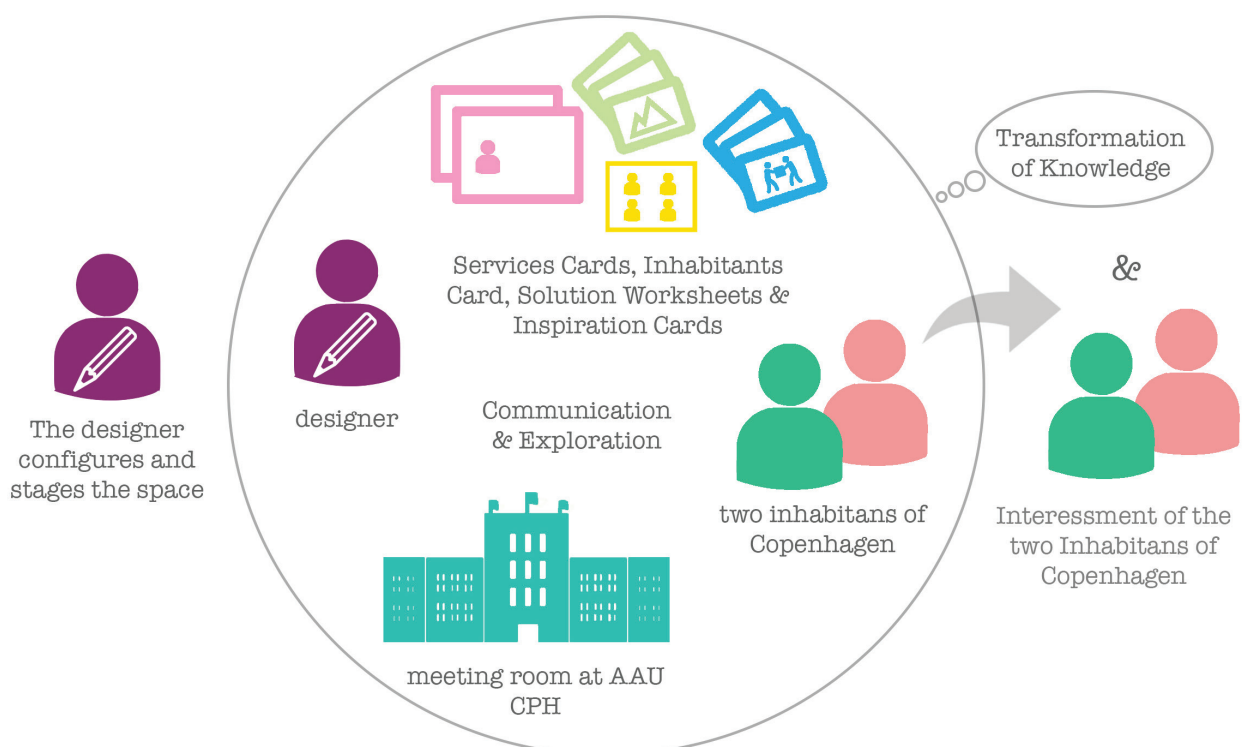


Fig.17: The prototyping space with the inhabitants.

7.1.1. THE EIGHT POSSIBLE SOLUTIONS

As said before, from the first prototyping space staged with the inhabitants eight possible ideas were translated, which then have been developed as concepts displayed in the Solution Cards to be used in the following prototyping spaces. As such, these solutions represent the knowledge that was translated from the first prototyping space to the following. The type of low fidelity visualisation chosen for the ideas in the Solution Cards was made on purpose to communicate that they are concepts not fully developed, which are then open to be discussed and can be adapted easily to the various actors involved. Also, the purpose of these cards was not to make the actors choosing the best one but to engage in an open discussion and mutual learning, as well as negotiating on how the solutions could be realised together.

Some of the solutions can be classified as a temporary solution, such as the Reuse Fair that will happen once a year, while others can be labelled as a more long-term solution, such as raising awareness about reuse and the free exchange services in schools.

One solution to make the services for the free exchange more known and used by the inhabitants of Copenhagen is to collect them all in a Reuse Fair, on the model of the Building Green Fair (Building Green, 2017) held once a year, as one participant of the workshop explained, in which companies in the construction area shown what they have been doing regarding sustainability. Therefore, in a Reuse Fair, all the services could partake with a stand and an event, *“to show the reuse initiatives in the city, the best practices and what people are doing in their community to all inhabitants”* (Participant 2).

Another solution is to create a website in which all the services for the free reuse are showed, including the recycling stations in the various municipalities of the area and what are they doing, but also with more general topics regarding reuse such as tips on how to do it and example of the best practices around the world. This is connecting the inhabitants with all the things available in the different services in one place, to *“ensure that*

reusable stuff is not ending up in the incinerator” (Participant 1), which happens for example in the private room for the exchange in some buildings if the items are not taken by anybody after a certain period.

Then, a solution to raise the awareness is to create a temporary event or installation using the furniture in the streets, to make visible how many things are trashed instead of reusing them, with a link to the various free exchange services. This is inspired by a system that one of the participants saw on TV in which they put hangers for clothes in a rope among streetlights so *“people who like them or you switch yours with that one or you just leave it to homeless who need clothes for winter time. They put it there and in less than one day is all gone”* (Participant 2).

Another approach is to educate children and teenagers in schools on how they could reuse at home through the services for the free exchange with their families. This was pointed out by one participant that highlighted that children may like a solution that is not really sustainable but sold as one, such as plastic bottles that can be reused as toys, since they may do not have the perception and the knowledge yet to see what a truly sustainable behaviour is, commenting *“can’t you just teach kids to use reusable items instead?”* (Participant 1).

One solution to make people use more the services for the free reuse could be connecting it with saving money, such as the H&M garment collection in which people get a discount on the next purchase when they bring their old fabric. This could be translated in a discount on the taxes that private citizens and companies need to pay for the waste handling, if instead of trashing their unwanted objects in the regular trash they would bring it to a reuse spot, which, as one of the participant said, *“could be a good political instrument to play with”* (Participant 1).

Also, environmental activism could make people aware of the possibilities of the free exchange and why they should do that, on the model of

‘Trash Me’ by Rob Greenfield (Trash Me: not your typical zero waste project, 2017), which went around US wearing for a month all the waste that an average US citizen is creating in that period, to raise awareness, told by one of the participant.

Then, a section about reuse and the free exchange services could be made in the newspaper of the various municipalities, but also in the ones of the NGOs of the area that are working with sustainability issues. In fact, one of the participants told about the journal of her municipality that she receives every month, with informa-

tion about events, construction, etc. in the area, in which “they should also provide information about the services for the free reuse, both the local ones and the national ones” (Participant 2).

Finally, a way to make the services more known and used is to create a newsletter, with various information on the reuse in general, but also about each service and if they are hosting events or markets in the area. In this way, people could subscribe to it to get all the information that they are looking for directly in their mail.



Fig.18: The eight Solution Cards.

7.2. THE SECOND PROTOTYPING SPACE – THE MUNICIPALITY

The second prototyping space was staged with one project manager of the Teknik- og Miljøforvaltningen (Technical and Environmental Management) of the municipality of Copenhagen, which is working on developing their new resource management plan and finding how to develop the circular economy in a broader way. Once again, I staged the prototyping space and I took part in it as a facilitator.

The project manager was invited in the prototyping space to understand how the municipality could be enrolled in the realisation of the possible solutions developed in the first prototyping space. In fact, the support of the municipality is fundamental regarding funding but also giving permission to use public spaces for events or activism for increasing the awareness about the services for the free reuse.

The meeting took place in a meeting area in the Teknik- og Miljøforvaltningen headquarter, in Copenhagen, where the project manager was working that afternoon. The room had two couches and a table in the middle and was convenient for the project manager since she could then go back quickly to her office to work, in the same building.

The purpose of the meeting was to evaluate the problematization of making the services for the free reuse more known by the inhabitants of Copenhagen with her, as a representative of the Municipality, by communicating the amount of services for the free reuse existing in the city in an Existing Services Map (see Fig.19), but also to evaluate each of the eight solutions, presented in the Solution Cards. Hence, after an introduction in which she explained me her role and the aim of the municipality regarding the reuse in the area, the meeting was divided into two parts.

In the first part, I showed her the Existing Services Map, summarizing to her that people use all the services for different purposes but they do

not know them enough, for then introduce her to the problematization of how to make them more known and used, which she quickly accepted saying *“I know some of them but not all of them!”*. She then added that one of the aim of the municipality is to increase the reuse, which will have a relevant importance in the new resource management plan that they are developing, and, in regarding to all the different possibilities already existing to do so, she affirmed *“we know there is a lot going on and we are very grateful for it!”*. It can be said that this is her main motivation to be included in the design process, that is to have news perspective on how the reuse could be increased in the city of Copenhagen and which kind of events, services and alliances could achieve that goal.

The map worked efficiently as a boundary object since it transmitted the knowledge discovered through the research on the existing services available to the project manager, which at the end of the meeting asked to keep it for herself, such as the Solutions Cards.

In the second part, I showed her the Solution Cards, to discuss the different options. As said before, the Solution Cards were represented in low fidelity on purpose, to allow the actor to relate to them in the way that most suited her. The aim was not for the actor to choose one solution but to engage in an open discussion and mutual learning, as well as negotiating on how the solutions could be realised together. The Solution card too succeeded in working as boundary object since the project manager was communicating her thoughts on them easily to me, connecting it to what the municipality is doing but also reflecting on which concepts could be the more useful for the problematization.

In fact, she started relating to the card presenting the activism for creating awareness, saying that the municipality is doing swap market connected with events and guests talking, but she then added *“they take a lot of planning and I do not think*

**GIVE IT
AWAY
for free**

**OBTAIN
IT
for free**

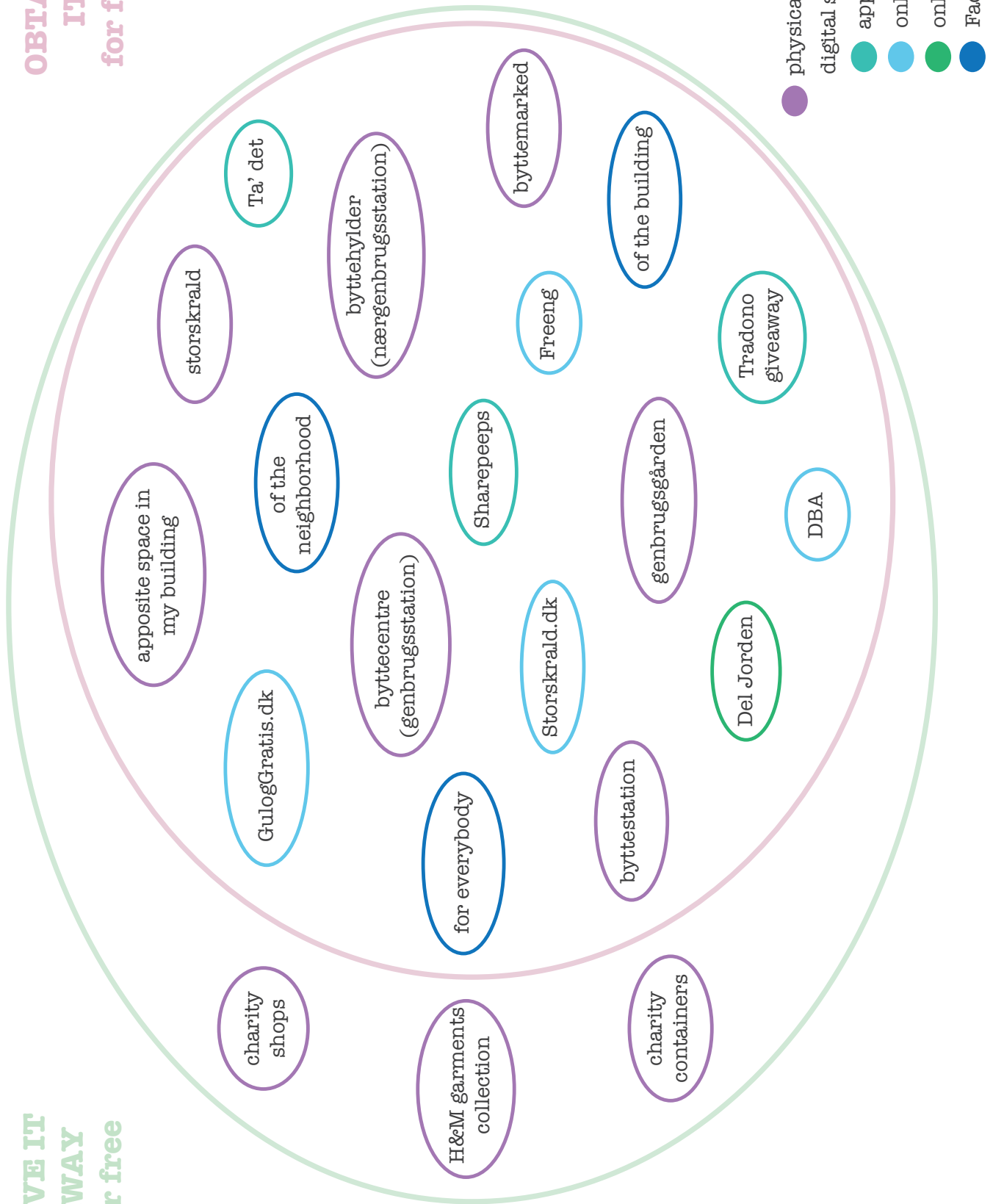


Fig.19: The Existing Services Map.

that the effect is that big” since “if there are 200-400 people, they will get aware but most of them are already aware”. Which is the same issue connected to the Reuse Fair, which she commented “I do not think it will work. It is the same as the event, you get the same people”, adding that “it would be a good idea to have them to tell about it but I do not think you should put too much in it because the number of people that you get is too small”.

Therefore, the effort and the cost to organise them need to be taken into consideration in relationship with a number of people that can be made more aware. Which is the main issue of developing a website, since “it is good for us to collect all the knowledge and connect all the things that you can do but it is a big development and you have to maintain it all the time, so it is a big issue to do that”.

On the other hand, she affirmed that “face to face is one of the most important triggers to get a behavioural change”, which is represented, for example, on the card related to the education about

reuse in school, that it is a “long-term investment and this is good because you have to make the kids understand before they grow up”, to which she added that there is a programme in the Ministry of Education about creating awareness on recycling in schools.

A way to involve more people than who is usually going to the events related to reuse or sustainability could be to make a reuse section in the newspaper of the municipality of Copenhagen, which is printed twice a year and “it will get out to all the people in Copenhagen, of course not all people would read it but some people would”, which could then have a link to sign up for the reuse newsletter in it, since the issue for this solution would be to figure it out how to get people to receive it.

Another option to involve different people is to make awareness happenings in public spaces, since “if you do it in a place in which there are a lot of people biking maybe 20 000 people passing by every day, then you get a lot more than the 200 of the event. They would not all stop but maybe they

Ps2 - The interaction with the **municipality** (external actors)

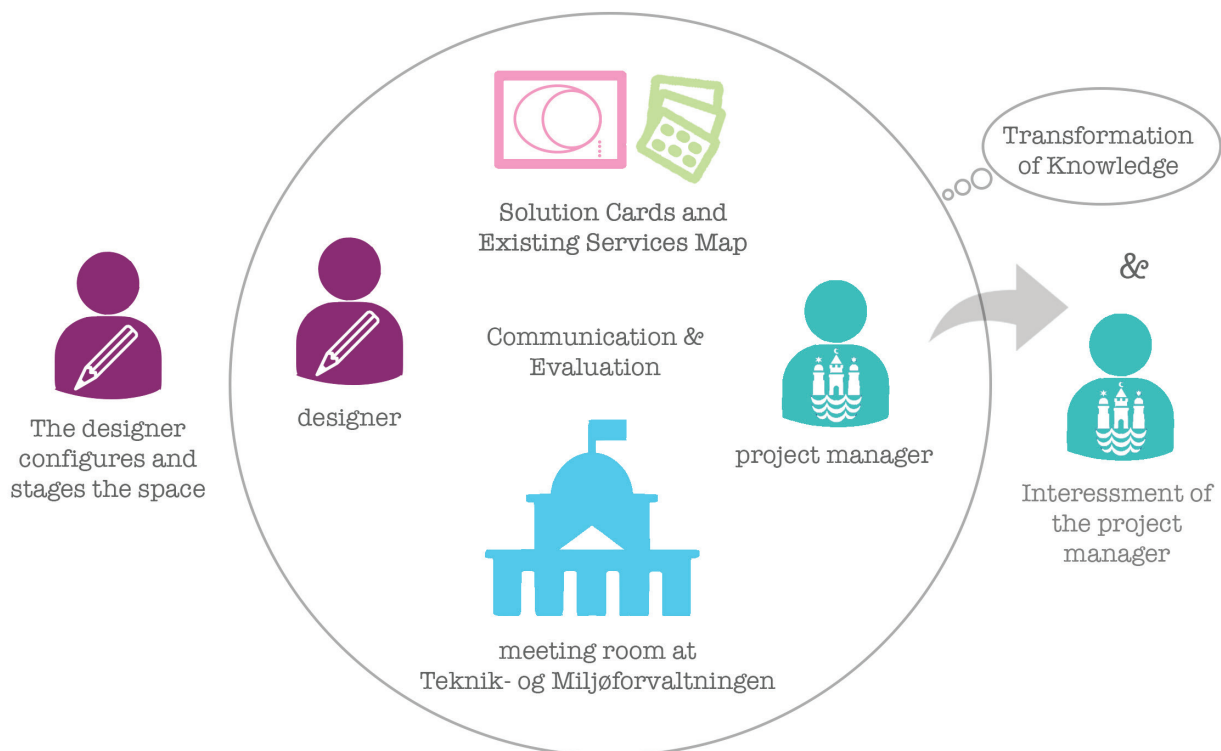


Fig.20: The prototyping space with the municipality.

will be curious about it!", even if she highlighted that is a long process to get the permission. She then added that the municipality is now having a multifunctional activity plan, in which they try to combine sorting facilities with other purposes, such as the Social Nærgenbrugsstationer in Amager, in which children from endangered area are involved in small activities and lessons on the reuse, combining recycling and reusing with social work and education.

Finally, about the reduction of taxes, if people reuse instead of trashing, she affirmed that *"at the moment with the current legislation, it is not possible"*.

To conclude, it can be said that the prototyping space was successful, since the project manager

managed to transmit me easily her knowledge, and so did I. Also, she was very interested in the project and she added that the municipality *"will always be interested in talking about it!"*, regarding solution to increase the reuse in the area, possibly meaning that they could be interested in being enrolled and mobilised in the future. Also, she wanted to keep the Map and the Cards for herself.

Finally, she made me reflect on a division needed between a solution to increase awareness about the reuse in people that are already doing it and participating in the events, in contraposition with people that are not usually taking part in it, which was an issue that I then raised in the following space.

7.3. THE THIRD PROTOTYPING SPACE - SHAREPEEPS

The third prototyping space was staged with two of the three founders of Sharepeeps (Sharepeeps, 2017), an app in which people can swap, borrow or give away for free things. They started to develop it one year ago (in 2016) as a start-up, since several people would like to avoid to *"buy a lot of things when they only need it to use it for one, three times"*, with a focus on communities as well. Therefore, they *"wanted to combine all that in one platform in which you get closer to the people surrounding you, in the same building or the same city, while we try to challenge a problem, that is overconsumption and how to recycle and reuse"* in which they *"wanted to make super convenient to reuse stuff"*. I contacted them to discover if they, as a service for the free reuse of things in the Copenhagen Area, could recognise themselves in the problematization, and how they have made their system more known and used so far.

The interaction took place in a meeting room in the co-working space in which they are located at the moment, which was comfortable to them

since they were working before the meeting and they kept working after. The room had a table in the middle and chairs all around.

The purpose of the meeting was, as in the previous prototyping space, to evaluate the problematization with them, as founders of a service for the free reuse, showing all the existing services in the Existing Services Map, and to engage in a discussion about the eight concepts in the Solution Cards. Thus, after an introduction in which they explained to me how their idea was developed and why, the interaction was divided in two main part.

They explained to me that as a start-up they have no budget for marketing and, so far, they have been promoting their services taking parts in various events, talking to people, sometimes putting flyers around, *"trying to be an active part of the huge sharing community that is here in Copenhagen"*, but also approaching TV station, online newspapers and physical ones, such as Metro Express. Therefore, they accepted the

problematization since they have themselves as a service for the free reuse the same issue of being more known and used by the people in the Copenhagen Area, and *"it is important to have a large users base because if nobody is sharing then the ball is not rolling"*. In fact, they are looking for investors to scale up their service, adding that *"we want to have a big users base to make a big impact on fighting overconsumption"*. They could quickly relate to the Existing Services Map, which then worked effectively as a boundary object, saying that they know each one of them, besides Freeng.

In the second part, I introduced the eight solutions asking their opinions about them, to engage in a discussion about their feasibility and efficiency to solve the problematization.

They quickly spotted the tax card, affirming that it will never work in Denmark, explaining that *"Copenhagen municipality is a part of the Danish state so they cannot recommend a special initiative, they can only make recommendation in general"*, which is also preventing them to fund a system for the free reuse instead of another. They then added that there is a service made by the municipality in Aarhus, called Reuse (Reuse Aarhus, 2017), in which the inhabitants can call them to pick up the unwanted objects directly from their home, for then transporting them to the recycling station, that repairs them and clean them so other people can take them for free. They explained to me that it the municipality is advertising it *"hard-core"*, on Facebook, with newsletters, letters in the mailboxes but also advertisements in every trash can of the city.

They were positive about collecting all the services under one websites, since *"there is a lot of power in uniting people that way"* and when I asked if they thought that only people that are already interested in the reuse could go there they answer *"yes, but it is about getting the ball rolling and for many people if they are not in the community they do not know which one to approach and how to do it. So, if you collect them all it could be a good idea"*. However, we then reflected that the problem would be to make this new website known by the people as well and they proposed that each of the services in it could share the costs, showing their availability in being

interested and negotiating their participation in a possible solution giving advice on how that could be achieved.

On the other hand, they were sceptical in regard to the idea of creating a temporary event or installation using the furniture in the streets to raise awareness, since there is a *"problem about the city getting overrun with trash, so it looks messier than it is"* adding that the rules about what can be done in the city are strict. However, they brought the example of the Byttestation in Vesterbro, which worked since it is in a controlled area and with a controlled budget.

Then, we talked about making an article in the newspapers to raise awareness, which they say are pretty expensive, the municipality cannot pay for it since they cannot promote private companies, and it is more difficult to assess if it will reach the right target group or people will just ignore it. In addition, they did not like the idea of a *"printed article because you are trying to fight overconsumption and reduce stuff and then you just produce a lot of more stuff"*, adding that they preferred an online solution, in which *"it is also easier to target the right people"*. However, regarding the newsletter they saw some legal issues since *"you need to be approved to get people email, so people need to sign up to receive it"*.

After, the topic of educating on the reuse in schools was faced, on which they say that in Denmark schools are doing one week with them and it could be the reuse, since *"you need to educate them thinking about reusing in their daily life so they could have contests or something like that"*.

Finally, we talked about doing activism to raise awareness about the reuse and the services for doing it, about which they liked its visual aspect, but *"you can easily go with bags of cans and trash and such but I do not see how it should be transferred over the Sharepeeps idea, because you would have to carry a chair or several pieces of clothes"* adding that *"things that are swapped and traded the most in this network are larger things, like chairs"*.

To conclude, it can be said that the interestment was achieved and the founders of Sharepeeps were able to communicate to me their knowledge, their thoughts and experiences easily, relating to

the Existing Services Map and to the Solutions Cards, which then worked both as successfully boundary objects. They made me reflect on the possibility of creating an alliance between all the services for the free reuse which could work for the sake of all, with the final aim of increasing the

reuse in the area. Their interest in the solutions proposed could mean that they could be interested as well in being enrolled and mobilised once that the final solution will be more developed, if it suits their needs.

Ps3 - The interaction with **Sharepeeps** (external actors)

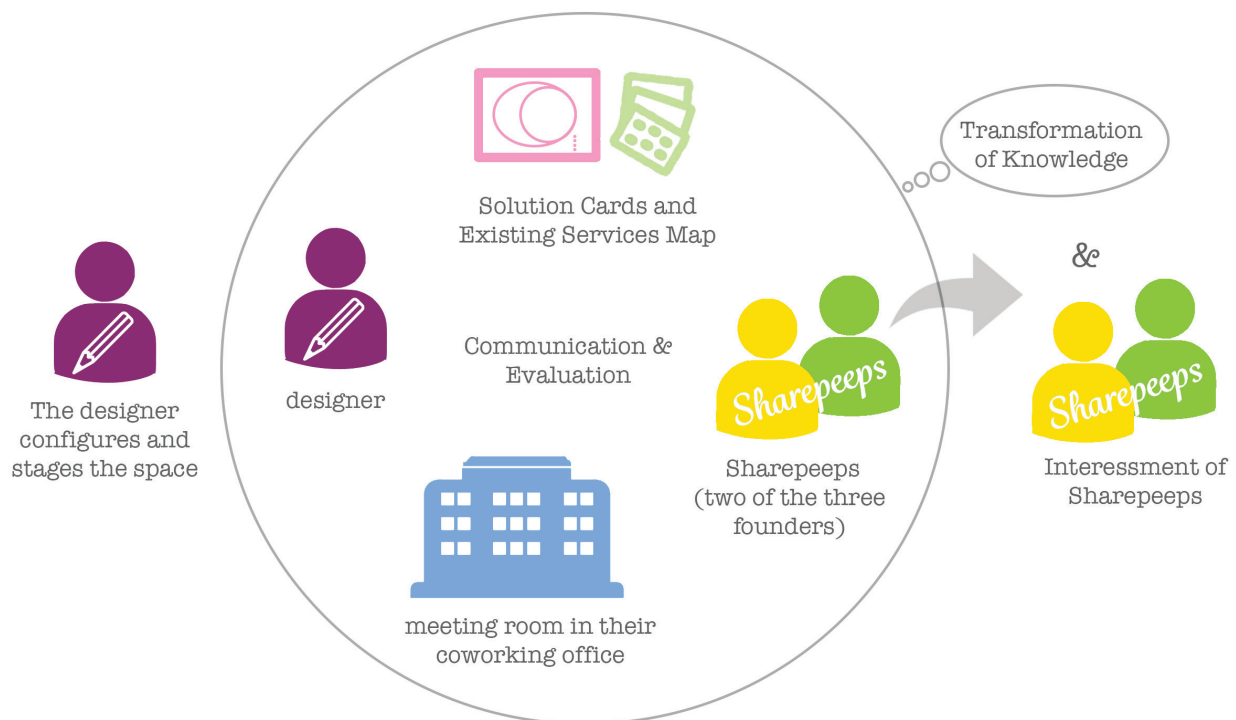


Fig.21: The prototyping space with Sharepeeps.

7.4. THE FOURTH PROTOTYPING SPACE – UNGENERGI

The fourth prototyping space was staged with a volunteer of UngEnergi (UngEnergi, 2017), a Danish NGO which organise events and activities to promote sustainability engaging young people. The NGO is completely run by volunteers, but it is part of a mother organisation, VedvarendeEnergi, which provides funding and support. She is volunteering in different projects, and she is also part of the board of the organisation. I invited her, as a representative of Ungenergi, to the prototyping space to present her my problematization, inves-

tigate which kind of events they are doing and if they could be interested in having a collaboration within this design project, once that the final solution is identified.

The interaction took place in a café near Norreport Station, where it was convenient for her to meet. We sit in a table, which was needed for displaying the Existing Services Map and the Solution Cards.

The purpose of the meeting was to have opinions on the possible solutions from an organisation that has been organising events on sustainability for several years and has volunteers and funding available. In fact, a synergy between the services for the free exchange and the Ngo that are dealing with events to increase the awareness in various sustainable areas could be beneficial for both.

After an introduction in which she explained me her role in the organisation and what they have been doing so far, seeing the Existing Services Map she quickly accepted the problematization, reasoning *“there are so many different organisations, and it is hard to keep track of everyone”*. However, she added that spreading the knowledge about her organization and their events is not currently a challenge since *“we have quite a big follow base on Facebook, and it is a good way to spread awareness”*, adding that *“our mother organization is also very willing to pay for the Facebook boosts and everything, so it get spread quite fast”*.

Then, I presented her the various ideas in the Solutions cards and she commented that some

of them *“are for people that know already how to reuse”*, such as the Reuse Fair, while other *“are better to create awareness for people who are not so conscious about it”*, such as the activism and the events using public furniture, adding about the latter *“this one is good, if it is just out in the city and people just walk by”*.

She then affirmed, referring to the website, *“that’s quite good, to collect all the information in one place so people are more aware and they are more available for them”*, while she commented about the newspaper, *“I do not know about the newspaper because I do not know how many people actually read it”*.

To conclude, it is undeniable that she was able, through the Map and the Solution Cards, to communicate me her knowledge and her opinions about them, which then worked successfully as boundary objects. Therefore, the interestment was achieved, and it can be said that the organisation could be willing to be enrolled and mobilised as well, once the final solution is defined, since she commented in the end *“It looks great! If you want to create some of them, you can contact us, and there are probably a lot of volunteers that wants to help out!”*.

Ps4 - The interaction with **UngEnergi** (external actors)

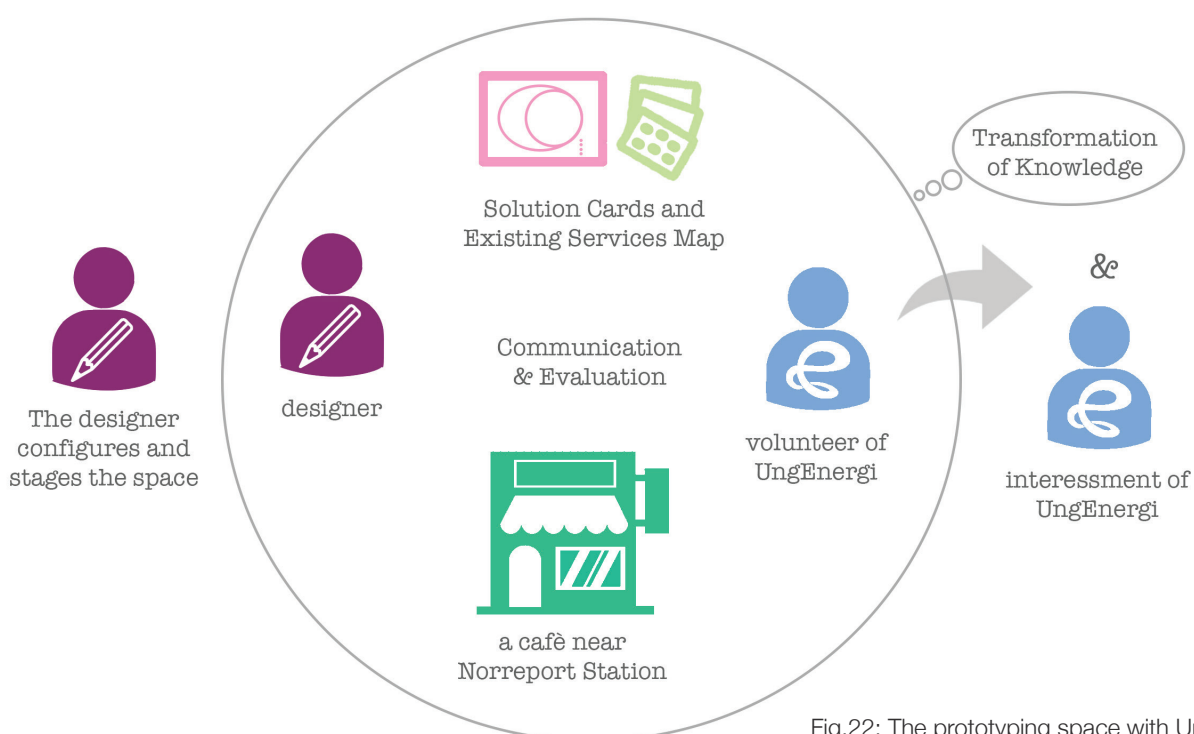


Fig.22: The prototyping space with UngEnergi.

7.5. THE FIFTH PROTOTYPING SPACE – INNOAID

The fifth prototyping space was staged with three members of Innoaid that currently work, among other projects, with the development and management of Freeng. The meeting was staged to present them my findings that lead to the problematization, thanks to the aid of the Existing Services Map, to then discuss the possible solutions to make Freeng more known and used by the inhabitants of the Copenhagen Area.

The interaction took place in the private house of two of the members, where it was convenient for them to meet and discuss. The purpose of the meeting was to agree on a strategy on how to make Freeng more used and known, to allow me to organise the following step of the design process accordingly.

It was clear that, being a no profit organisation, they have a different aim than the for-profit ones, so their target is to increase the reuse in general, since *“from an environmental point of view what makes sense is to increase the recycling and the reuse by all means!”*, adding that *“our value proposition is that we want to be non-profit because the communities here believe seriously in non-profit. And if you start to introduce some advertisement in it, is against the culture of the people that will be using them!”*, in regard to financing the service through paid advertisements on it. However, their vision is to make Freeng become the Facebook of reuse in the future, starting it in a narrow community, that is the Copenhagen Area, and then scaling it, *“the ambition would be to have this social community starting it non-profit and then at some point the mass of people would have a value, but it is not the value that drives us!”*.

The interaction started with an introduction in which I explained my findings shortly, linking it to the Existing Services Map, followed by a discussion on the possible ways to solve the problematization regarding Freeng, inspired by the different ideas proposed in the Solutions Cards.

They accepted the problematization on the need to make their service more used and known, affirming that they did not know some of the services presented and, since their vision is to make Freeng become *“THE platform”* in which *“you can put your phone because that is the place in which to put it”*, it needs to be made more known to have more users.

However, we then reflected that a good way to make Freeng be the platform in which *“everybody that gives thing for free gives it so everybody else can see it”*, in relation to the Solution Card on the Reuse website, could be to make their service to become like Skyscanner, so *“one app with everything on it!”*. In this way, *“all the small platforms can still exist, but there is one that searches the database of all the others, like an umbrella website!”*, so *“if I want to have a smartphone, I will go to search in the umbrella website, and it will suck all the smartphones in all the platforms and list them here”*. Therefore, Freeng could promote in it all the other platforms and the way of reusing objects for free, being at the same time an umbrella platform in which people can search for specific things which are present in all the other ones, and then be redirected in those.

However, as one of them reflected, *“if you make a website the website itself needs to be found!”*, making it clear that to increase the reuse in the Copenhagen area a series of integrated solutions and initiatives are to be developed, together with the umbrella website. In fact, the challenge then is double, that is how to attract the people that usually reuse and look for a proper platform to do that, but also the people that do not do it usually and *“need to get introduced to it through the channel that they already use, like newspapers or on the waste bins”* because *“they need to have it served in some way”*.

The idea of promoting the service in the flea market that are very frequently held throughout all the Copenhagen Area then came out, since they *“are also visited by people that will still throw out things in their house but they like to collect Danish design*

or such”, but also to establish a close collaboration with the municipalities that could print the information about the website in the flyers that they send to all the inhabitants on how to handle their waste, to “*get the people that are not necessarily looking through this!*”. However, to get more people, an event or installation using public furniture should be held as well, in which, they reflected, “*you will have 10% of people that like this new stuff, a lot of people that do not care and a lot of people that would hate it! But of course, more people would see it*”.

In conclusion, it can be said that the interaction was successful in terms of interesting the member of Innoaid that were asking questions and coming up with new ideas on how to make their system more used and known, with the final aim of increasing the free reuse in the Copenhagen Area. Also, they were able to relate easily to the Existing Services Map and the Solutions Cards, which thus worked successfully as boundary objects, interpreting them according to their own thoughts, their vision about their system and their final purpose. Then, since they accepted that this solution could work as such, by negotiating it

with me, and they affirm that they will work for its development, it can be said that they have been enrolled, and they are in the mobilization phase, since they started to contact the web developers of their team to talk about how to create the new online platform.

Therefore, the meeting was successful in developing a shared strategy to increase the reuse of free things in the Copenhagen area through the use of Freeng as an umbrella website, in which all the things available for the free reuse in the different platforms will be collected, combining it with targeted events and advertisement for people that usually reuse and people who do not, in flea markets, public spaces and in the flyers that municipalities send to citizens about how to handle their waste.

The actual feasibility of these integrated solutions, but also the possibilities of interesting the right allies to build the new networks supporting those solutions, were then brought into the following prototyping spaces and investigated with the actors invited.

Ps5 - The interaction with **Innoaid** (internal actors)

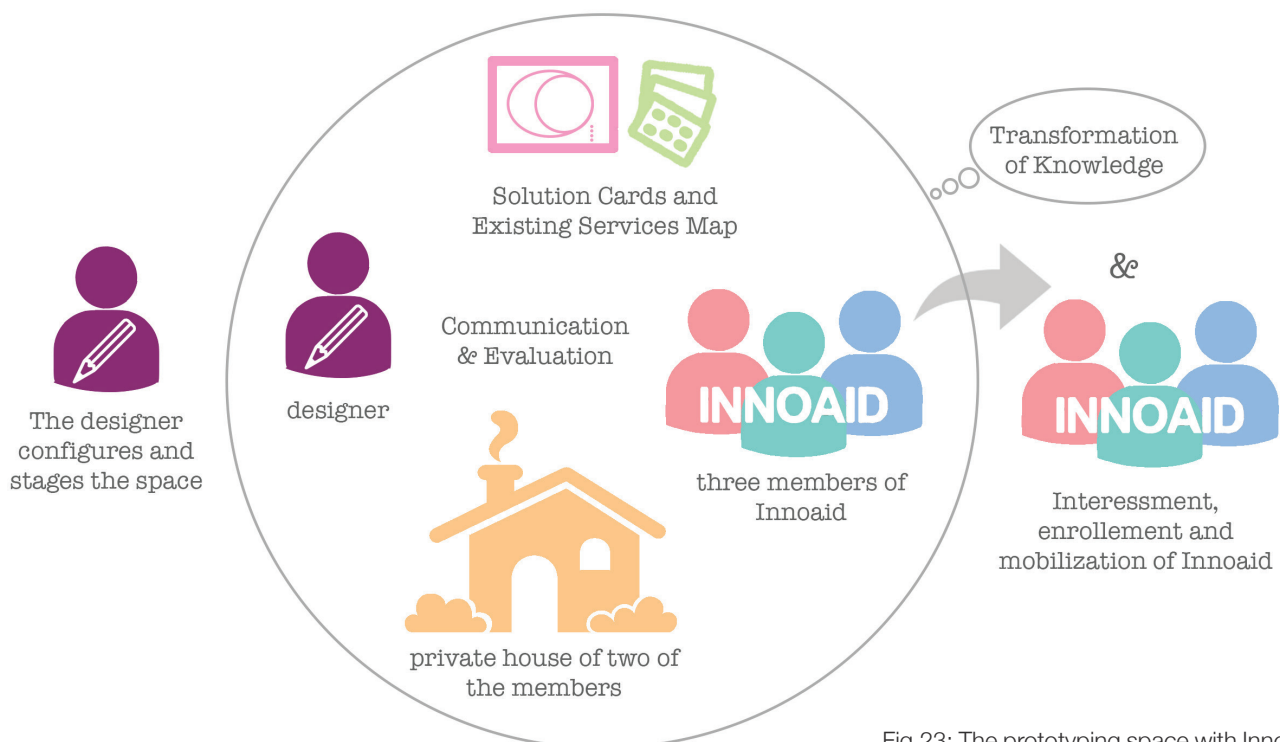


Fig.23: The prototyping space with Innoaid.

7.6. THE SIXTH PROTOTYPING SPACE – BYTTEMARKED

The sixth prototyping space was staged with one of the founders of the Byttemarked (swap market in Danish) project (Byttemarked, 2017), that is an event in which people can exchange things for free. They started travelling around Denmark to spread the concept, thanks to a limited fund given by the Ministry of Environment, during which they contacted schools, municipalities and various people to help them to host swap markets. However, nowadays, the funding has expired, so they are run by volunteers. They also made a website with information about how to arrange a swap market and with a link to the various event around the country. This concept, she explained me, is making people giving away thing easier, since *“they can see that people can be very happy for a thing about which they (the owners) were tired of already”*, and they will give the items a new life. She also organised swap markets with the municipality of Copenhagen, the last one was at the beginning of April, for the Nordic Swap Day, in the Rådhuspladsen (the city hall square), with different NGOs and services working with sustainability themes, with a focus on the reuse.

The meeting was staged to present her my problematization with the Existing Services Map and to discuss the feasibility and efficiency of the various ideas in the Solutions Cards. It took place in a café near her home, in which she often goes to work, where it was convenient for her to meet. The purpose of the meeting was to have her point of view, as an expert organiser of events in the reuse area, on the possible solutions and how they could be realised.

The interaction started with an introduction in which she explained me her role in the byttemarked project and the event in the Rådhuspladsen, and I introduced the project and the problematization, followed by a discussion on the different concepts in the Solution Cards, distinguished in long term solutions and temporary solutions. Finally, I presented her the strategy decided for Freeng to have her opinions on it.

Having worked with the municipality and with reuse events for many years, she knew all the ser-

vices for the free reuse displayed in the Existing Services Map, but she recognised that people do not know them enough, saying *“I think it is crazy that there are so many projects that you do not know about!”*.

In regard to the solutions presented after, she commented that *“it is a good thing to connect everything and use every channel”*. She first relates to the website, affirming that *“I would love this! It would be nice a place in which you have everything, every green thing!”*, however, she then told me that there had been already some initiatives of this kind that did not succeed, probably due to a lack of funding, since it is fundamental to have money also *“to running after making it!”*, adding that also the graphic of it and how it is organised is important to attract people, *“it should have a very good overview!”*.

Then, she commented that doing something about reuse in schools is *“very powerful! (...) because they will know it for the rest of the life, if you make it appealing to them!”*, so they could understand the value of it and be active in their homes as well.

On the reuse section in the newspaper, she reflected that it will not reach many people since not many will actually read it, which is similar to the main issue of the newsletter, which they have as well connected to their service that *“I do not know how many people are opening it, I think it takes too many resources compared to what you get out of it”*.

In regard to the Reuse Fair, she compared it to the event in the Rådhuspladsen, saying that just people already interested will take part in it, *“you reach some, and that is good, but I am not sure on how effective it is”*, even if *“it is good that you have an event and you can feel it and smell it”*. On the other hand, she thought that making an event in a public space would be more effective, *“making something funny and informative at the same time”* that could be an *“eye-opener for a lot of people!”*, if made well enough. The latter is similar to the activism idea, which she commented *“people should hear about it! Should be communicated!”* if it will be done specifically for the reuse with a good story behind that people could share.

Ps6 - The interaction with **Byttemarked** (external actors)

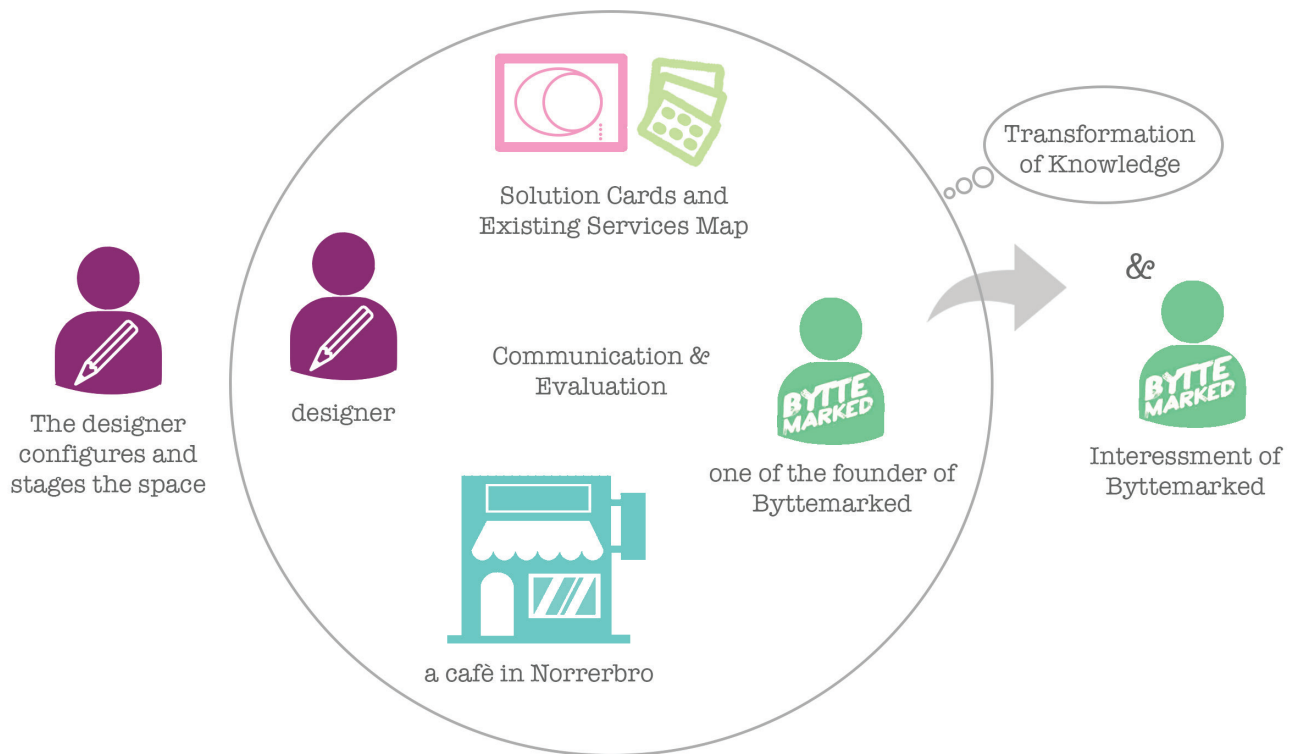


Fig.24: The prototyping space with Byttemarked.

Hence, she told me about an initiative made by Thomas Dambo, a Danish artist, in which he recreated with recycled materials a Christmas Village in the centre on Copenhagen, during the holidays, to make people reflect on the consumerism of that period of the year with various activities (Remake Christmas, 2016).

Then I explained her the strategy that Innoaid and I decided for Freeng, to have her opinions and thoughts on it, and she pointed out to be aware of the necessity of having enough funding to set the website and run it afterwards. She then added that it would be mostly targeted to people already interest, so it would be a good idea to combine it with some advertisement or events to spread the knowledge about it, since *“events are nice for an eye opener and a word of mouth, and it is very powerful, then it is nice if you can see that and find a platform related after”*. She then reflected that people could be overcome and *“just shut down because of too many information, and it is difficult to find out what to do and even if I sort my trash does not help in the bigger picture”* so there should be a message saying that *“baby steps are helping as well!”*.

When I told her about the idea of combining an event for the umbrella website in the swap market, so an event in the event, she commented that many people going there do not know about the services for the free reuse, so *“it is a good way to connect the services!”*, adding that they always *“had the round opinion that the important thing is not our swap market but it is more than people are swapping! (..) we should help each other to reach the common goal!”*.

Then she added that the things sold in the flea markets are not the same of the swap markets, as they could worth more money, so the events should take places in both typologies of market to reach more people. She then added that *“if they (flea markets, for example) rely on the bigger goal (increasing the reuse) and that is their agenda, I think it will work perfectly fine”* without having a protective set of mind and rejecting the collaboration.

She explained to me that in their swap market they always put banners related to storskrklad.dk or other services but *“people have to be actively looking”* so *“would be great if there are resources to actually make an event, then it would be a cool way to get attention of people!”*. In fact, she told

me that the resources that an event or advertisement are going to take are to consider, both in regard to funding and human capacity, so could be also something very simple, like saying it in a speaker during one of those events, or something more elaborate that could launch it and then events or activities more basic to follow up.

In conclusion, it can be said that the Existing Service Map and the solutions Cards worked both as efficient boundary objects, sparking a broader

discussion in which she gave me her thoughts and insight on how the website and the events to create awareness could be handled, sharing with me her knowledge and experience about them. She was surely interested in the design process, and it seems as she is willing to be enrolled later, once that the final solution would be more developed, as she reacted very positively about the synergy between the events for making the services know in the swap markets she organises.

7.7. THE SEVENTH PROTOTYPING SPACE – STORSKRALD.DK

The seventh prototyping space was staged to interest Storskrald.dk in the design process, which is the oldest online platform dedicated only to the free exchange in Denmark, since it started in 2006, it also partnered with some municipalities of Denmark to provide the service for free to all the citizens (Søndberg, 2008). One of the two founders could participate in the prototyping space, but only through a Skype interaction as they currently live in Jutland. However, the materials for the interaction could easily be sent by email, so he could have a better overview looking at them on his computer while I was explaining showing each one through the webcam.

The purpose of the meeting was to have more information about their service and how they are dealing with the issue of making it more known and used, but also to have a feedback on the concepts in the Solution Cards and then to propose them the strategy developed with Innoaid, to see if they could be willing to be a part of it.

As he explained me in the introduction of our interaction, they started this service since they *“just saw a lot of good things being throw away and we could not find a similar service”*, and they could quickly see that they had positive feedback as *“it is free so you cannot really be disappointed! People are glad!”*, especially in the big city in which the inhabitants usually do not have cars so

they are happy *“that they could give it away to somebody who can come and get it!”*. In regard to advertisement, in the beginning they got articles in the newspaper and on TV, but also in the municipality of Copenhagen waste journal, while now they are communicating their system mostly through Facebook, as *“it is smart and cheap to reach people and easy for users to help us by sharing things on it”*. However, they also have flyers on their website that people can print by themselves to help spread the service.

He then accepted promptly the problematization to make the services for the free reuse more known and used, since it is an issue that they have always been facing with their service, adding that he knew most of the system displayed in the Existing Service Map *“but that’s also because I actively look for those services sometimes! But I think most people will know 2 or 3 at the most”*. After, we moved to the Solutions Card, which I explained one by one showing it to him on the webcam, to then have a discussion about which one he thought it could work. We started reflecting on the Reuse Fair, which he said they participate in one similar event organised in the Rådhuspladsen in Copenhagen but was not very effective as *“we were there all day, and in 10 hours just two people stopped by, it was not really worth it. There were more people working in the line as us than actually visitors, at least that time it did not really work”*. He thought that it could be since

there were several events and companies under the same roof and *“they wanted to do a lot of things at the same time, it was hard for them to communicate clearly about the reuse”*. However, he liked the physicality of the event, and he was part of a swap market organised in his city by Byttemarked, which *“actually worked really good”* and was advertised mostly in the online papers, since *“online media was the best. It is a lot easier and you can just sit at your work and you have ten minutes to spare and you do not have to go and buy a newspaper, online is easier, often free as well!”*. They also had spaces in the physical newspaper, which though *“I do not think that there are a lot of people reading the newspaper, at least not in my area”*. Which can be compared to the limited effect of the newsletter, as they have one for their services twice a year, with 22 000 subscribers, *“but I do not know how many of them are actually reading it, that is hard to tell”*.

On the other hand, in regard to the event made

in a public space, to create awareness in people that do not usually reuse, he thought *“that could actually work”*, and then he told me that he saw online a video in which people had put some clothes on lines by the street and *“people come by and took them and put something up and in a matter of time there were a lot of people because they could see how it works”*, which is probably the same service seen by one of the Participant in the first prototyping space staged with the inhabitants. He then added that it could be linked to the website online so people could visit it, after having noticed the clothes on the street. However, he thought that an event in a public space could be effective but not the activism, since *“when you do activism a lot of people want to make a distance to it, they think it is wrong, but maybe it is just in Danish culture”*, adding that *“all the people that thinks is great they already know about how to reuse, so you hit the wrong people with it”*.

We then talked about the education in school

Ps7 - The interaction with **Storskrald.dk** (external actors)

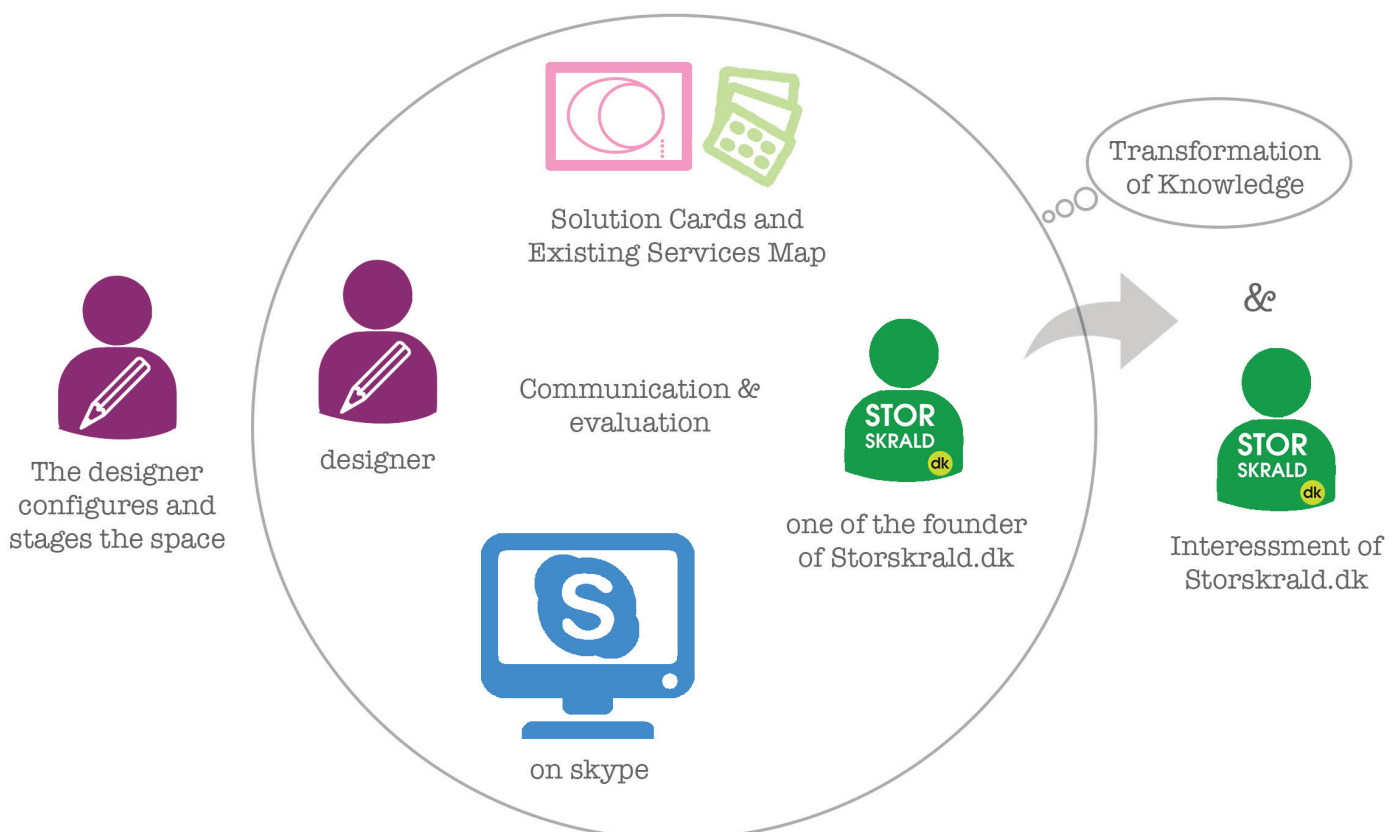


Fig.25: The prototyping space with Storskrald.dk.

about the reuse and the different services, and he told me they were thinking of making educational material with schools, doing something practical with the children so they can *“teach parents about them, because when they got obsess with something they think is fun and they talk about it!”*. However, they have some issues in finding municipalities that can give funds to develop this project.

Finally, we talked about the website idea, and he affirmed that it could work to collect all the objects available on the different platforms, which is exactly the idea that Innoaid wants to develop, and, when I asked him if Storskrald could be a part of it he affirmed *“of course!”* since they will be driven by *“the same motivation as making the website, to help people reuse in the easier way”*, adding that the others may also join, *“if it is a commercial site like dba that makes money out of people exchanging things at the start they will say no, but when it is getting really big then they will have to be on it!”*. Then he commented that the solution to increase the reuse would be *“some*

combination between digital and physical (..) so making some events and also teaching about it and making children doing something physical and active so they can see the difference, that is the way to go!”.

To conclude, it can be said that the founder of Storskrald.dk was made interested since he is driven by the same motivation as Innoaid and me, that is to increase the reuse. His experience was valuable since he already tried some of the ideas that I showed him in the Solutions Cards, which therefore acted successfully as boundary objects, allowing him to share his knowledge and experience with me. The fact that the meeting was by Skype did not affect the quality of the interaction, probably due to the flexibility of the Cards and the Map that could also be seen in a pdf online, and prompted an interesting discussion. In addition, it can be said that he is also willing to be enrolled and mobilised since he proposed to help if web developers are needed to create the umbrella website.

7.8 TOWARDS THE DETAILING OF THE DESIGN SOLUTION

In conclusion, all the actors invited to the prototyping spaces were made interested in the design process, and the majority of them also seemed willing to be enrolled once that the final solution is going to be materialised. Therefore, since the interessment was achieved it confirmed *“(more or less completely) the validity of the problematization and the alliance it implies”* (Callon, 1986, p.210). On the other hand, Innoaid was interested, but also engaged and mobilised since we negotiated together the new solution and their role in its realisation, and they started to work for it. However, the other actors can be fully enrolled and mobilised only when the final solution will be developed.

In each prototyping space knowledge was successfully transmitted, which was then translated

into the following ones, and so forth.

Hence, the final solution was developed as the result of the seven prototyping spaces staged with the different actors, that is the umbrella website with information about the different ways and services to reuse available in the area of Copenhagen, but with also all the objects present for free in all the online platform for the reuse.

In fact, all the actors were positive about the idea and the power of it to connect all the services and ways for reusing things for free in one website, to collect all the knowledge in one place. Nevertheless, the website itself will need to be made known and used by the inhabitants, which will happen through an event or some advertisement using different channels, such as a part of the activities of NGOs working with sustainability or in the flea markets around Copenhagen.

However, all the actors invited were also agreeing on the challenge and the costs related to first develop the website with all the needed information and connection, and then maintain it later, making it and keeping it enough attractive and useful for people to know it and use it for increasing the reuse in the Copenhagen Area.

Therefore, a strategy for implementing the design solution is needed, which is going to be described in the next chapter, the detailing of the Design Solution, with the new networks that will allow its realisation. In fact, new actors will be needed to be interested in the networks for the new solution, to create the umbrella website but also to make it known to the people in the area of Copenhagen.



8.

DETAILING OF THE DESIGN SOLUTION

TOWARDS THE THIRD AND THE FOURTH PHASE OF THE PROCESS OF TRANSLATION: THE ENROLLMENT AND THE MOBILIZATION

Thanks to the process of conceptualization conducted with the use of the prototyping spaces, a solution for how to make the services for the free reuse more known and used by the inhabitants in the Copenhagen area has been initiated, in collaboration with Innoaid.

The first step of the solution is to develop a website, on the model of Skyscanner, in which all the information about how to reuse in the area of Copenhagen are present, with a link to all the items shared for free in the various services for the exchange of second-hand objects. The second step is to make this website known and used by the inhabitants of the area, through events or advertising in the events organised by people and organisations sharing the same goal of increasing the reuse and promoting a sustainable behaviour, both no profit and for profit, such as green NGOs but also flea markets.

However, the purpose of this thesis is not to develop the technical solution in detail but to investigate the networks that will support it. As the solution is divided into two main parts, the creation of the website and the ideation of the events or advertisement solution to publicise it, each one of them, to be materialised, need their own network of actors to support them, which will be unfolded in the next pages.

Nevertheless, only once that a prototype of the website has been realised by the developers it can be presented to the actors to enrol them, that is when will accept the role they are assigned in the network, for then mobilise them, that is when

they will start to work for the networks to support the solutions (Callon, 1986). So, for example, the role of the services for the exchange of second-hand objects would be to collaborate with Innoaid to allow the sharing on the umbrella website of all the objects for free that they contain or at least to allow the sharing of information about their services in general. On the other hand, the role of the municipality of Copenhagen would be to give information about which kind of options they provide for reusing objects to their inhabitants and advertise the umbrella website in their own events and channels, and eventually providing funds.

Due to the considerable number of actors needed to create the website and advertise it, keeping a good relationship with all of them is fundamental to stabilise the networks that support it, to maintain all the actors highly involved under the bigger goal of increasing the reuse in the area of Copenhagen. In fact, could be useful to organise, after the implementation of the website and its advertisement's strategy, monthly meetings with the actors involved to discuss how the system is working and how it can be improved.

8.1 THE UMBRELLA WEBSITE

The umbrella website will have a section with information about all the initiatives for the reuse in the Copenhagen area, and another one with all the second-hand objects available for free in the different platforms, where people can also post their things directly, if they prefer. Several actors are needed to be interested in the creation of the website with all the wanted information on it, as displayed in the network map (See Fig. 26). The ideal scenario would be having on board all the services that allow the exchange of objects to show in one place all the items available for free in the Copenhagen Area, to make it easy for the inhabitants to look for what they need just in one place.

The first step is to find the web developers that will be able to develop the website. According to one web developer with whom I had an informal talk, the main issue is collecting all the things for free available in the different websites in a single one. In fact, is needed a complex algorithm for each one of the websites in which the objects will be taken from, together with their location. Thus, it is fundament to establish a good relationship with the different services to have their permission to show the objects on their websites in the umbrella website. Therefore, it is needed an expensive and complex calculation, together with an effort to establish a collaboration with each one of the services that

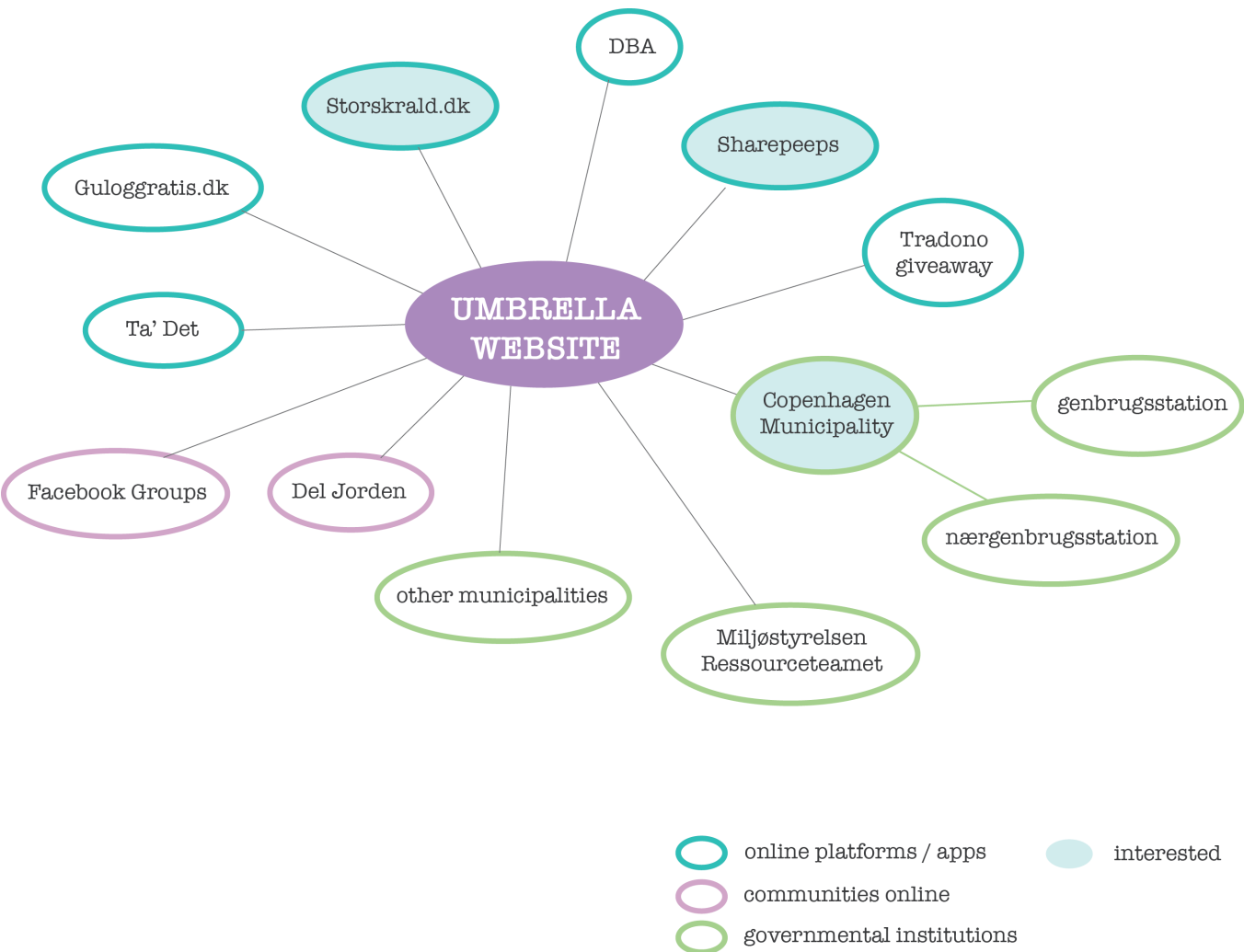


Fig.26: the network for the umbrella website.

are meant to be included.

Innoaid has a group of developers in the team of Freeng, with whom a meeting had been settled after the deadline for this thesis to see if they are available to develop the several algorithms, if they need to be paid and how much. At this moment, Innoaid has some funds that could be invested in this project. However, the website needs to be developed but also maintained in time, so funds and human power need to be addressed for the whole lifetime.

Otherwise, the founder of Storskrald.dk, which is a web developer, has proposed to help, but also other developers working as volunteers can be found or, as the last option, Innoaid can apply for further funding to pay developers to create the website.

In regard to the fund for developing the website and maintaining it, the municipality of Copenhagen or other Danish institutions could be involved since this initiative will help them to save money on the incineration of objects that will be reused instead, so to increase the reuse as it is part of the waste prevention strategy of the country, 'Denmark Without Waste II' (The Danish Government, 2015).

The actors that are needed to support this part of the solution can be divided into three categories, as shown in the map of the network, which has different characteristic and will be involved in different ways. Those are online platforms and app, communities online and governmental institutions.

The online platforms and app are services in which free objects can be found and exchanged between users, and they are Storskrald.dk, Sharepeeps, Ta' Det, Tradono, GulogGratis and DBA. As said before, they need to give the permission to the umbrella website to showing their free objects in it, or anyhow they need to be involved in linking their service to it, if they do not want to share their objects.

The communities online are systems in which objects for free are exchanged, but also various events related to the type of community are organised, such as in Del Jorden in which garden party are organised beside exchange of soil and plants, or the Facebook groups for baby clothes in which clothes are shared but also activities for

children are promoted. Those communities need to give the permission to share their objects on the umbrella website or at least to have their services linked and explained in it. However, those communities online have a different purpose than the online platforms and apps described before, and they may or not may be interested in sharing their objects or having a link to their services in the umbrella website.

Finally, the institutional services to be included in the network are, so far, the municipality of Copenhagen, others municipality of the area and the Miljøstyrelsen Ressourceteamet (The Resource Team of the Danish Ministry of the Environment), which is responsible to promote the waste prevention strategies all over the country (Ressourceteamet, n.d.). The institutional services will provide the information about the initiatives by which they let the inhabitants to reuse, how they work and where they are situated. Also, they could help running the website with funds and human power.

Some of the actors in the network are already interested in an umbrella website to collect all the information on the reuse in one place, as it could be seen in the prototyping spaces. Those actors are Storskrald.dk, Sharepeeps and the municipality of Copenhagen. However, only Storskrald.dk has agreed so far on sharing the things available for free on their website in the umbrella one, and some issues could be present when proposing it to the other services, as they may see the umbrella website as a competitor, or they may see it as a way to advertise themselves. However, only when a first prototype of the website is developed and presented to them, they can be said to be truly interested in this solution, for then be enrolled and mobilised. As well, the prototype of the website is needed to be presented to the other actors in the network not contacted yet for them to be interested, enrolled and mobilised.

Regarding the online platforms and apps, some of them will be contacted to be interested before than the others, starting from the smallest and newer one and ending with the more established ones, but also according to who has been already contacted in the prototyping spaces. In

fact, prioritisation is needed for Innoaid to decide in which relationship put their effort first and in which algorithm start to invest their money on, due to the limited funding, but also as a strategy to convince the various system to be involved in the website since the others are already involved. The order in which the services for the free reuse should be contacted is illustrated in Fig.27.

Therefore, the first service to be interested with the prototype of the umbrella website is Storskrald.dk, also due to the fact that is the only no profit organization among the services, so their aim is to increase the reuse without making a profit out of it, in addition, they already confirmed their interestment in sharing their objects in an umbrella platform; following with Sharepeeps that is a start-up that wants to make a profit out of their services, which seemed interested in the project when invited in the prototyping space, founded in 2016 and with 2000 members, so far. Then, the other services are going to be involved in regard to their establishment in the Danish scenario. Thus, the next system to be contacted will be Ta' Det, founded in 2015 and with 17,000 registered users, which allows the exchange of things for free (Ta' det, 2017), followed by Tradono, created in 2014 in Denmark and with more than 750,000 members, in which second-hand objects can be sold or gifted (Presse, 2017). Finally, the two biggest services in Denmark for the exchange of second-hand things, sold or gifted,

are to be contacted, once that all the others are on board. First, GulogGratis will be involved, as it is the second biggest in the country, with 1,4 million users (Erhvervsannoncering, 2017), followed by the last one, DBA, which is the oldest as it was founded in 1981, and it is the biggest with 1,6 million users (Om DBA, 2017).

At the same time, the municipality of Copenhagen and the other municipalities of the area are going to be involved, to see if they want to collaborate in some way, such as with funds or some sponsorship, and to have all the initiatives that they are handling in regard to the reuse collected in the umbrella website. Therefore, in the umbrella website all the recycling stations existing in the area will be shown on a map with how they work about the reuse, like the gengbrusstation and the naengengbrusstation present in the city of Copenhagen. This will help people to discover if they have a physical facility in which they can take and leave things for free nearby their houses, for example.

Also, events about the reuse organised by the municipalities and the other entities, such as green NGOs and flea markets, will be shown on the website.

The online communities, as Del Jorden, need to be contacted to see if they would like to share the things that they have for giveaway in the um-

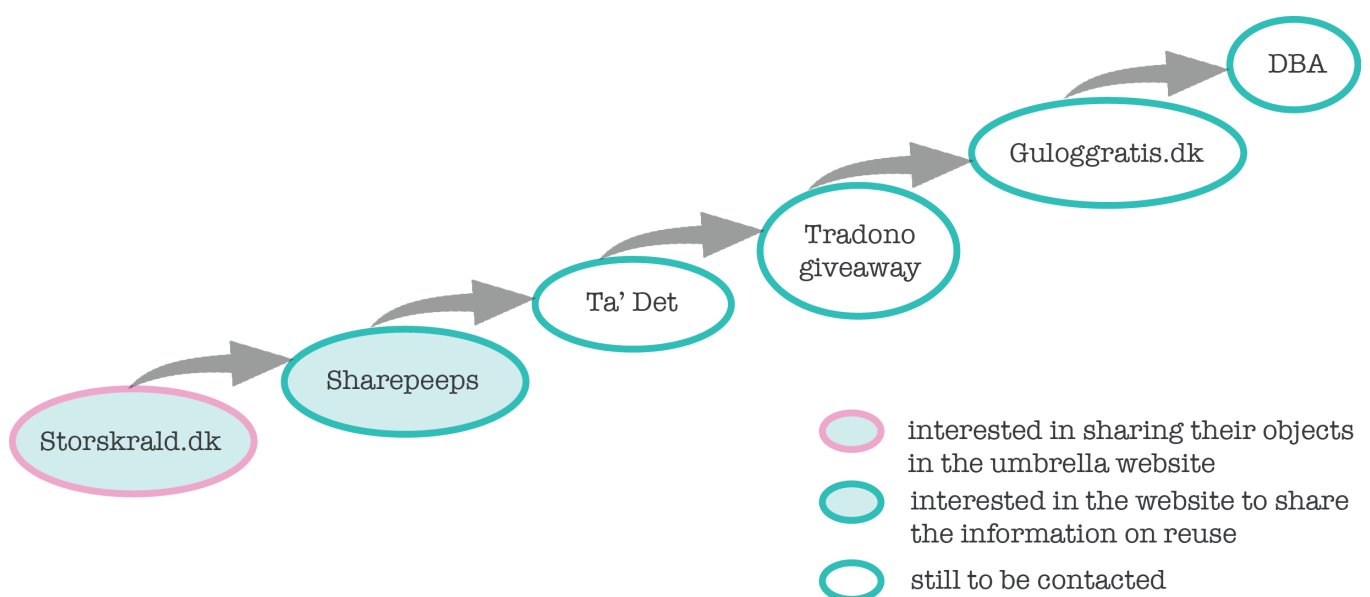


Fig.27: The order in which the services for the free reuse should be contacted.

umbrella website, or if they would prefer just a link to their website. In fact, it would be useful to indicate all the platform of this kind for people to know them. As well as for the Facebook Groups, that could be made a part of the website, sharing all the things for free that people are posting in the umbrella website or at least creating a link to all of them in it, even if the developer whom I talked to told me that is going to be a challenging process, speaking about the calculation behind it.

As the last feature, a part of information and news on the reuse in Denmark and all over the world could find a place in the umbrella website, also with suggestions on how to reuse in the everyday life, which, however, would need to be updated frequently to make people wanting to read it and finding it interesting. Therefore, it is necessary to see if there are enough funds or human power to manage it.

8.2. THE EVENT / ADVERTISEMENT TO MAKE THE UMBRELLA WEBSITE KNOWN

To make people aware of the existence of the website and of its value to increase their possibilities of reusing, it is necessary to advertise it properly. To do that, it is useful to join forces with the other organisations in the area of Copenhagen that share the same philosophy of Innoaid, that is to promote a more sustainable behaviour, which in this project will be achieved through an increase of the reuse in the city by providing an easy access to all the possibilities that inhabitants have in the area to do so, through the umbrella website.

Therefore, the umbrella website can be promoted by some sort of advertisement, like flyers or a video, but also with an event in the ones run by the organisations that share the same philosophy of Innoaid, like in one of the swap market organised by Byttemarked, and both the options could be realised by a Danish artist that works in the reuse area, such as Thomas Dambo.

Just some of the actors that could be included to support the promotion of the umbrella website are shown in the map of the network (See Fig.28), and they are divided between non-profit organisations, artists, flea markets, communication channels and governmental institutions. Three of those actors are already interested in taking part in the project, as it could be seen in the prototyping spaces staged, which are Byttemarked, the municipality of Copenhagen and UngEnergi.

However, they can be engaged just when a first prototype of the website is going to be developed and presented to them. On the other hands, the rest of the actors still need to be contacted, and it is not a given that they would like to collaborate in the project, but more actors are bound to be included in the way if they are considered viable for the purpose and if they will be interested in participating.

The non-profit organisations, as well as the flea markets and the governmental institutions, are going to be included to make an activity or a stand in their events to promote the website, but they could also advertise it through their own online and physical channels, such as their own websites and their Facebook page. Also, they could also help Innoaid in regard to human power with some of their volunteers, if people to manage the stand or the activity will be needed, or regarding funding.

The NGOs displayed on the map are all organising activities and spreading knowledge on sustainability themes, and they are Zerowaste.dk (Zero Waste Denmark, n.d.), Omstilling.nu (Omstilling.nu, n.d.) and Grønhverdag (Grønhverdag, n.d.), besides the already mentioned Byttemarked and UngEnergi.

The flea markets included are the ones organised by Absalon, a social gathering centre in Vesterbro (Absalon, 2015), which include various kind

of objects depending on the type of flea market organised, such as only about outdoors or only with antiques; another one is the one only for clothes run by Veras Market, connected with the shop and the online platform in which people can exchange their clothes through a points system by paying a membership (Veras Copenhagen, 2017); and the various flea markets organised all around the Copenhagen Area.

The governmental institutions included are the municipality of Copenhagen, which was made interested in the second prototyping space, but also the other municipality of the area.

The artist mentioned in the map, Thomas Dambo, which creates projects with recycled items, could be included to create the stand or the activity in the various events reusing materials, which they would be promoted since he is the one doing them, as a known Danish artist.

Then, the communication channels are important

to spread the information about the events and the website itself, and they could be channels regarding sustainability, like Grønforslek (Grønforslek, 2017), or more wide channels like the Facebook platforms of the actors involved.

However, due to the large number of organisations, flea markets and governmental institution present in the map, which are quite different from each other and organise different events in different venues and with different typologies, an activity or stand will be needed to be designed according to each one. Also, it will need to be made attractive enough for catching the attention of people in the event and make them willing to use the website.

In fact, even only in regard to the flea markets displayed on the map, the organisation of their events is quite different, for example since the flea markets organised in Absalon are in a limited

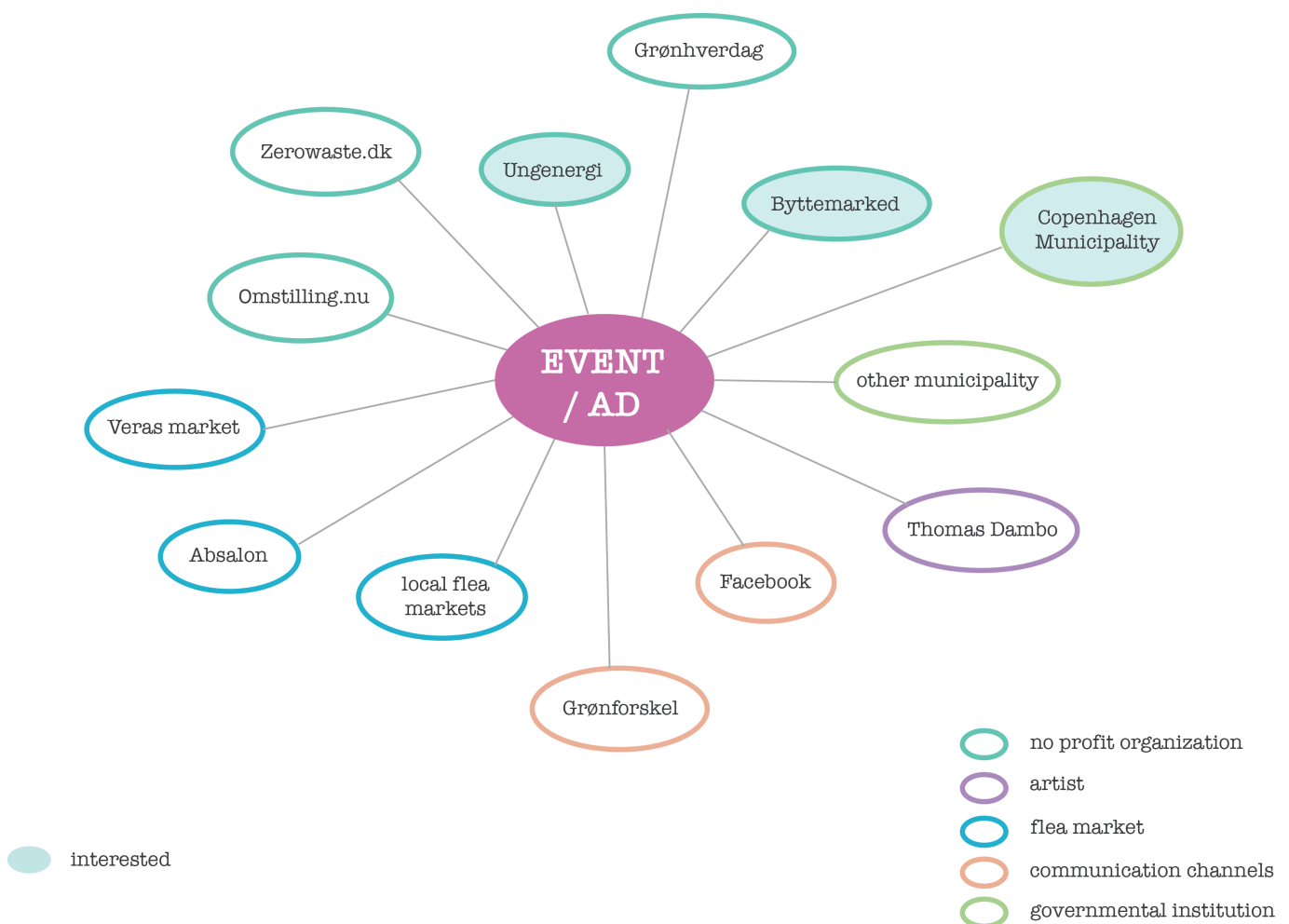


Fig.28: The network for the event of the advertisement for the umbrella website.

space inside it, while some of the flea markets organised around the area of Copenhagen are in a huge area outside, therefore different consideration about the weather need to be made. Besides, NGO like UngEnergi organises different kinds of events according to their possibilities, so it could be one in partnership with other NGOs under a big tent, such as the event organised in the Rådhuspladsen by the actor invited in the fifth prototyping space, or an event in a music festival.

Therefore, I suggest that each time that one of those organisation is willing to be a part of promoting the umbrella website, a co-design workshop should be organised with them and other relevant actors to understand what can be done in regard to the event's own characteristic and the best way of doing it to attract enough people. However, some general considerations will always be needed to be made for all the event or advertisement, such as the cost of it in terms or money and human power, the characteristic of the place in which it is going to take place (if it is covered or not, etc.), how the events should catch the attention of people among all the other activities, how it can promote the reuse on the website itself, which kind of relationship it will establish with people and the style of it.

For example, the events or the stand can catch the attention of people being only of one colour, by making particular noises or being of a considerable size. Also, it can communicate the validity of reuse, to then linked it to the website, by showing some fact about reuse on it, or some suggestions on how to reuse in the daily life, or just saying, for example in a swap market, that if people have not found what they were looking

for there they can go on the umbrella website. Then, in regard to which kind of relationship with the people it should have, it can be a stand made of reused things that everybody can take, for example a pyramid of chairs that everybody can bring home until they are over, or a piece of art that symbolise the reuse and it is meant to make people reflect on it, connecting it to the website, that is not supposed to be taken, on the model of the Giants made by Thomas Dambo (The six forgotten giants, n.d.)

However, it is important to organise several events or type of advertisements frequently to make the umbrella website enough known, to include more and more people in the system. In fact, could be beneficial to create a first significant event to launch the website and then several others smaller, in different venues and different typologies, to keep the attention high on it.

Would be also beneficial to partner with more organisations, in the way, to increase the sponsors of the website. Each of those organisations that will support the system could be described in a dedicated page in the umbrella website, with all the information about their vision on sustainability, the actions that they take in this regard and a link to their webpage.

To conclude, it is needed to point out that promoting the umbrella website in those green channels and events will mostly reach more people that are already getting second-hand objects or interested in improving their sustainable behaviour, but they are the most likely to use the website once they know about it.

8.3. FURTHER ADVENTURES

In the previous pages, the focus is on the creation of the two new networks that will support the solution, with general guidelines for the creation of the technical objects, which are the website and the event to promote it. However, the website to be developed needs a further investigation,

for example on what it should communicate, with which kind of graphic and which kind of features, to be sure that the people consulting it can find all the information wanted easily.

Therefore, I recommend developing the whole design of the website co-designing with the people

that are going to use it, which are the inhabitants of the area of Copenhagen, but also the various entities included in the two networks unfolded previously, to be sure that the needed information will be inscribed in it with efficacy and clarity. Hence, several prototyping spaces could be organised to involve the actors in the creation of the website, such as in the creation of the event, as said before.

Thus, after the hand-in of the thesis, prototyping spaces with more actors to be interested in the two networks will be staged, according to who is going to be available in that timeframe, to further build the support to the solution. In the meantime, a meeting with the developers of Innoaid is going to take place to see how the website can be created, concerning human power and money.

In the future, several prototyping spaces will need to be staged to, first, co-design the website with the relevant actors, and following or in parallel, to co-design the events or advertisement required to promote it. One volunteer in Innoaid will need to take the lead in the project and stage the interactions in a certain timeframe, to make sure that it will come to life in an acceptable period.

Also, since the people that would be reached through an event or any form of advertisement in collaborations with one of the actors in the networks would probably be already interested in the reuse and look actively for options to do so, the next step would be to include people that are not usually going to the sustainable events or the flea markets, and that are not reading the green communication channels.

One idea is to organise an event or happening in a more general venue, such as in the streets of Copenhagen or in a bridge in which a high amount of people is passing every day.

Another approach is to engage children in the schools by making them do something active, for example by organising one day in which they are all going to find an unused but still working object in the basement of their homes and post it on the umbrella website so others can reuse it, as one member of Innoaid suggested.

As it can be seen, it is needed a holistic approach to make the umbrella website known and used by the inhabitants, from its launch to its whole lifetime, by including different kind of actors that will support it in a variety of ways and with different target groups, to reach the common goal of increasing the reuse in the Copenhagen area.



9.

REFLECTIONS

In the following pages, reflections about the unfolding of this thesis will be presented, in regard to some of the choices made in the process, for example on the matter of concern 'I was looking exactly for this one', but also about the choices of who to invite to the prototyping spaces or who to interview in the beginning of the analysis. In general, it can be said that the limited time allowed for the developed of this thesis has influenced the whole process. Also, it was affected by

the difficulty of actually finding the various service for the free reuse online, which is the main issue unfolded by the analysis, that they are not easy to find.

Finally, the solution resulted from the process will have several challenges to be implemented, such as that the website will have to be developed first, co-designing with the relevant actors, and then run and maintained, but also promoted frequently.

9.1. THE MATTER OF CONCERN 'I WAS LOOKING EXACTLY FOR THIS ONE'

One of the matters of concern of the inhabitants, presented in the current network in the analysis, was that their concern in using a system for the free reuse would be because they are looking exactly for a particular object. It is undeniable that this matter of concern is not connected to sustainability, neither to saving money, neither to the practicality related to use an object again because it still works, thus it can be classified as less important than the others.

However, some of the inhabitants of the area of Copenhagen, especially the ones that are not using any system for the free reuse at all, or are not reusing objects in general, could be attracted to use a system of this kind exactly because they are looking for something in particular that they

cannot find anywhere else. This is one of the reasons why they may go to a flea market as well, for example, if they are looking for a Danish design piece of the sixties that is not sold in the usual design shops, or they could be looking for a model of TV that is not in production anymore, such as one of the inhabitants interviewed in the analysis.

Nevertheless, these inhabitants that are not reusing things already are bound to be the more challenging to include in the new system, since they do not have already a strong motivation to reuse, in comparison with the others that are motivated by having a more sustainable lifestyle, saving money or reusing things that still work instead of trashing them.

9.2. THE LIMITATIONS OF THIS THESIS

Mainly due to the limited time available for developing the project described in the previous pages, this thesis has certain limitations.

First, it can be objected that the inhabitants interviewed for the analysis could have been more than eight and more different between each other than the ones chosen, but those actors were the ones that were available to be interviewed

for this project at that moment. Furthermore, as explained in the Method Chapter, I chose them among the available ones keeping a certain variety among them, as much as was possible.

Then, in the conceptualization phase, just the actors that replied to my request for a meeting in a given period of time were invited to the pro-

prototyping space, due to the necessity of reaching a design solution in a defined timeframe. Also, I contacted just the organisations and people that I knew about, thus it is undeniable that more actors willing to sustain the project could have been contacted and included, if I would have known about them at that point. However, the actors that were available for a meeting after that period are going to be interviewed after the hand-in of the thesis.

Furthermore, it must be pointed out that the actors invited to the prototyping spaces that were interested in the design process can be said as truly interested just once a more defined solution will be presented to them, such as a prototype of the umbrella website, which will then, if successful in interesting them, lead them to the enrolment and the mobilization, as said before.

Finally, in the analysis it has been presented mainly the systems for giving away things or obtaining them used by the inhabitants interviewed, to have their point of view on those. Therefore, the net-

work of 'get rid of it' and 'obtain it', unfolded in that part, are limited in this regard.

The same problem can be found in the Existing Services Map, used as a boundary object in the various prototyping space staged, in which only the systems for the free reuse that I knew at that point were included and presented to the actors. It can be said that this issue of me not knowing all the services available in the area of Copenhagen for the exchange of things in general, and more in particular for the free reuse, is connected to the main point of this thesis, that is that they are not known enough. In fact, even when I was researching exactly for this kind of services online I could not find all of them, and I came to know the majority of them just because some actors encountered in the process told me. Furthermore, it could be presumed that more systems of this kind not known by me are present in the area of Copenhagen and probably more are about to be started, but they share the main point of this thesis, since people do not know them enough.

9.3 THE CHALLENGES IN MAKING THE WEBSITE RUNNING

The initial design challenge that Innoaid proposed to me at the beginning of our collaboration was how to launch Freeng to make more people using it. However, I started the project with an investigation of the different services that allow people to obtain and get rid of objects, not limiting it to the free reuse or to Freeng in particular, to have a broader picture that helped me to analyse the different issues at stake. From the analysis, it was clear that all the services for the exchange of things are answering to the different needs of the inhabitants of the area, therefore none of these solutions is increasing the reuse more than the others by itself, but they are all working together, even if unintentionally, to reach this bigger goal. However, they share a similar issue that is that they are not enough known, which then becomes the focus of the thesis, that is how to make peo-

ple known them and use them more than now.

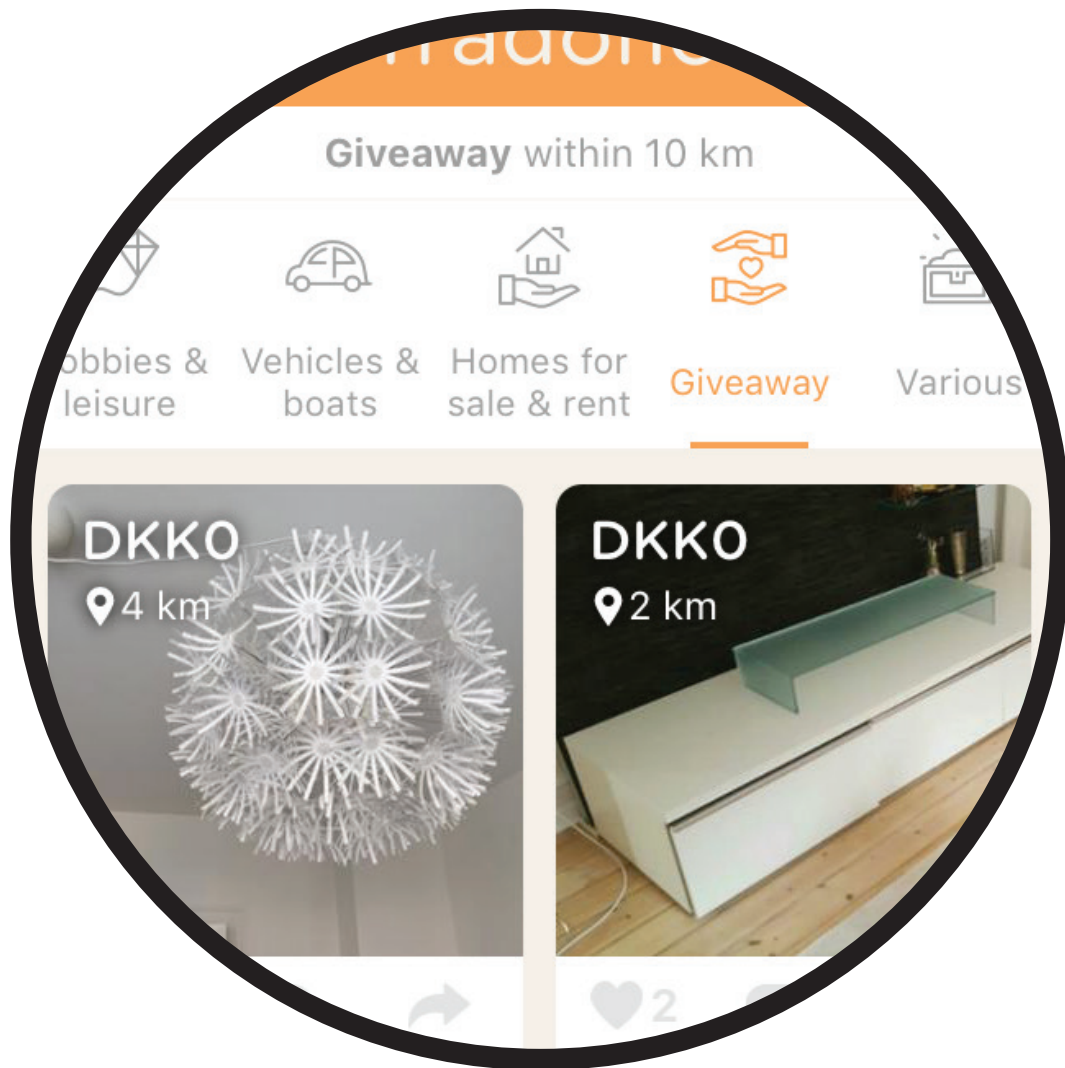
This point could be easily translated to Freeng, since it also needs to be made more known and used by the inhabitants of the area, but it could be related as well to all the other services and the initiatives for the free reuse available in the area, as it can be seen in the various prototyping spaces staged, since they all share the same issue. However, in the prototyping space staged with Innoaid, we decided together to transform Freeng in an umbrella website, connecting it with all the other services and initiatives on the reuse present in the area of Copenhagen.

Nevertheless, it can be said that this solution can also be taken into life by somebody else, therefore I would recommend Innoaid to start the development of the umbrella website and the interaction

with the actors needed for its development and its promotion as soon as possible. In fact, it can be said that, during the process of this thesis, Freeng has not been the primary concern of Innoaid, or anyhow the service was not made more known, and the users did not increase visibly. Moreover, the NGO has to make some consideration about the effort that needs to be put into a solution of this kind, moneywise but also about human power and time, and if they can afford it.

In fact, a website like that, with all the actors involved in its development, like the different systems with things exchanged for free, and the actors involved in its promotion, like the various NGOs, needs a considerable effort both in its creation and in its maintenance in the future.

Also, I recommend contacting the various relevant actors to be involved following the principle of the prototyping space, thus with a co-design approach, including the actors' thoughts and suggestions in the development of the website and its advertisement.



10.

CONCLUSION

In this thesis, it was investigated how to increase the reuse of things for free by the inhabitants of the area of Copenhagen through the existing services. Actor Network Theory framed the whole process in the four stages of translation, which are, first, the problematization, then the interestment in which co-design was brought into play with the use of prototyping space, and finally the enrolment and the mobilisation, which were not achieved due to time constraint.

First, in the problematization phase, eight interviews were conducted with as many inhabitants of the area of Copenhagen to investigate some of the systems available to get rid or obtain things, together with their thoughts and needs regarding them. Also, four field trips have been made to get a broader understanding of some of the physical services. It was clear that the services available answer to the different needs of the inhabitants in different ways thus they are all collaborating in increasing the reuse in Copenhagen. However, it was discovered that people do not know all the services and the possibilities to reuse things for free available, which become the main focus of this thesis. So how to make those services more known and used by the inhabitants of the area of Copenhagen?

This was investigated in the interestment phase, by staging several interactions with different relevant actors using the concept of prototyping space as an interestment device. Seven actors were invited in the spaces staged, one for each of them, and they were the municipality of Copenhagen, the inhabitants of the area, two NGO working with sustainability, two services for the free exchange of things, and one with the collaborator of this thesis, Innoaid.

The solution resulted from the inputs and the insights obtained by all the actors involved in the prototyping spaces, connecting it to the aim of Innoaid concerning Freeng, that is to make it 'the' platform for the reuse. In fact, in the prototyping space staged with them, Innoaid decided to modify their platform into an umbrella website in which all the initiatives for the free reuse can be collected and presented, both the private ones and the national ones. The vision is to create a

website in which all the objects available for free in the different platform of second-hand items will be collected, making it easier to people to find what they want in one website that is including all the others.

The result of this thesis is an investigation on how the networks needed to support the solution, with the several actors in them, should be built, divided in one network for the website and one network for the event or advertisement to promote it. Therefore, the various services for the exchange of second-hand object are to be involved to share their information in the umbrella website, as well as the municipalities of the area to provide information about their services and some sponsorship and funding for it, if possible. Hence, a considerable effort is needed moneywise to develop the website itself, but also in regard to human power and time to establish the different connections. Just once that a prototype of the website will be created, co-designing with relevant actors, and it will be presented to the actors in the networks they can be enrolled and mobilised, if they are willing to.

Moreover, to make the website known it is needed to be advertised and promoted properly, which can be achieved with the collaboration of the several NGOs existent in the area working on sustainability, for example. In fact, an event to promote the umbrella website could be organised in one of the events that those NGO, but also the various municipalities of the area, organise to promote a more sustainable living. However, it will need to be created attractive enough to catch the attention of people. Therefore, every time that one of those actors wants to promote the umbrella website in one of their events, participatory design interactions will need to be staged with them and other relevant actors to create it accordingly to the venue, the budget available, and several different factors.

In the future, advertisement in different urban spaces could be organised to catch the attention of people not going to the events related to sustainability, like happenings in the streets of Copenhagen where several people pass by with their bikes on a daily basis. Also, awareness about the

reuse and its importance could be increased by proper activities engaging the children in innovative ways in schools, connecting it to the umbrella website.

To conclude, a synergy between all the different services for the exchange of second-hand objects, the various NGOs working with sustainability, the governmental institutions, the individual citizens and all the other relevant actors is needed to create the networks that will support the umbrella website and its promotion effectively.

This joint effort will help in achieving the broader goal of increasing the reuse in the area of Copenhagen.



11.

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12.

APPENDIX

APPENDIX A

THE GUIDE FOR THE MEETING WITH THE INHABITANTS

INTERVIEW – 10 minutes

TRASH/SELL/GIVE/

When you have an object/ piece of furniture that you do not need any more (etc: a lamp), what do you do?

- How you do it and where you bring the thing?

When you trash something, what do you do and how?

- Why you trash it?

When you sell an object to somebody, what do you do and how?

- Why you sell it?
- What would you sell to somebody else? What not? Why?

When you give something as a gift to somebody, what do you do and how?

- Why you give it as a gift?
- What would you give away for free? What not? Why?

BUY/BUY SECOND HAND/ REUSE

If you need something that you do not have, what do you usually do?

- How you do it and where you look for the thing?

When you buy something new, what do you do and how?

- Why you buy it new?

When you buy something from somebody, what do you do and how?

- Why you buy it second hand?
- What would you buy second hand? What not? Why?

When you obtain something for free from somebody, what do you do and how?

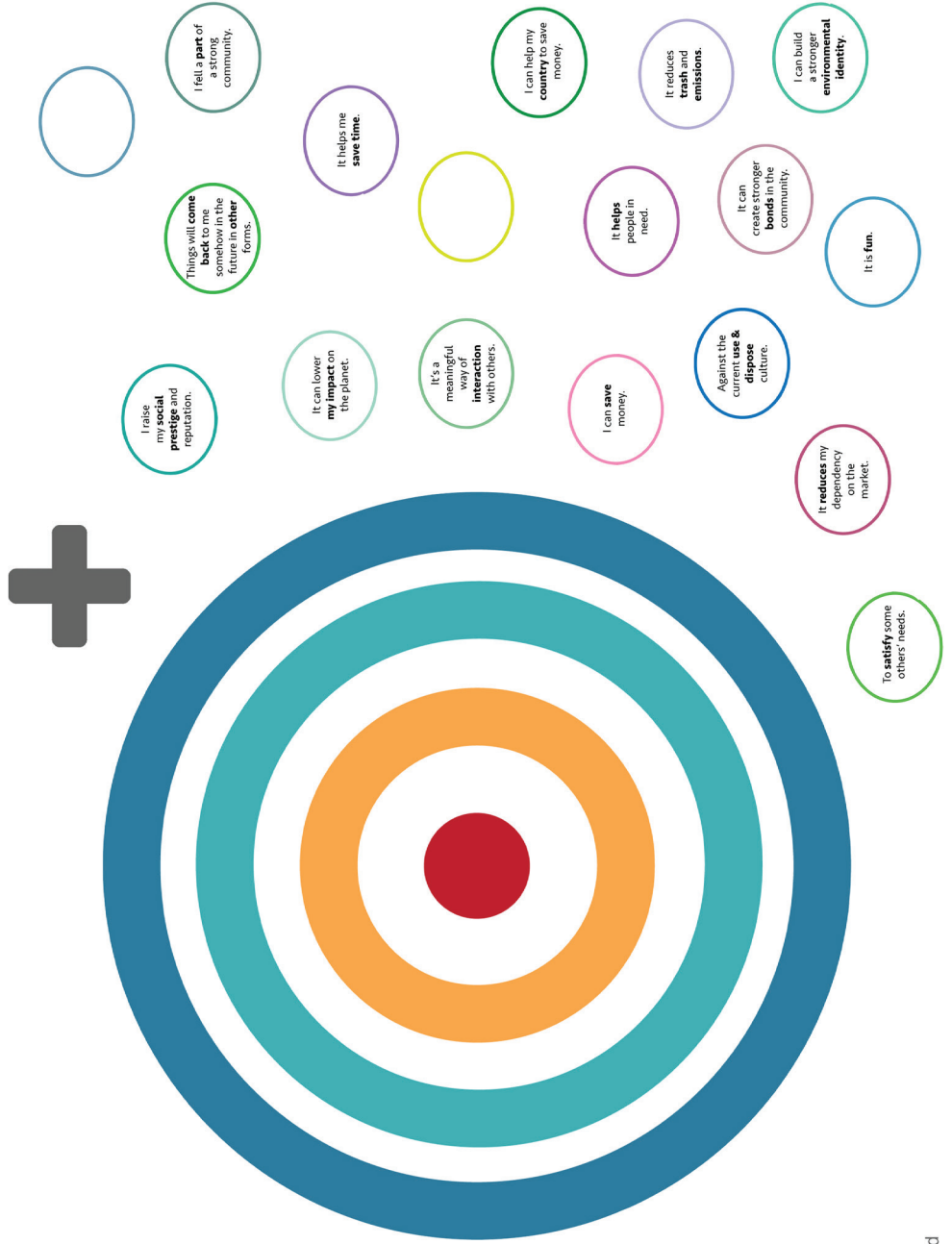
- Why you do that?
- What would you take for free? What not? Why?

APPENDIX B

THE MEETINGS WITH THE INHABITANTS

- 1 28 female expat lives with her husband + children apartment in Valby
- 2 24 male expat lives with his girlfriend apartment in Amager
- 3 44 female danish lives with her boyfriend apartment in Nørrebro
- 4 52 female Danish lives with her husband single family house in Brøndby
- 5 34 male Danish lives alone apartment in Vesterbro
- 6 37 male expat lives with his boyfriend apartment in Vesterbro
- 7 89 male Danish lives alone apartment in Østerbro
- 8 66 male Danish lives with his wife single family house in Albertslund

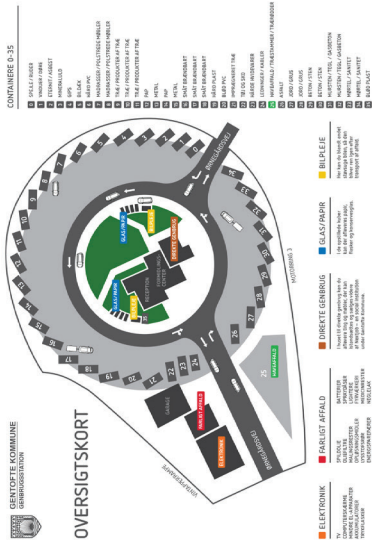
- When you have an object/ piece of furniture that you **don't need** any more (etc: a lamp), what do you do?
- If you need something that you **don't have**, what do you usually do?



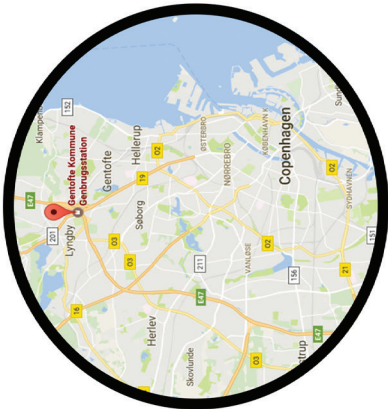
RECYCLING STATION
in GENTOFTE

The recycling centre has low-level containers disposed along a road, in circle, as shown in the picture below, that allows people to enter with the car and go near the wanted container easily. In the Field Trip, it could be observed that people were coming to the centre with trailers, vans and even horse transport trailers, to fit more things. Some of the people coming only with the car had stuff everywhere, even between them in the front. If they had big items to dispose, such as windows or furniture, they were at least in a couple. They were usually throwing things in the containers, which make most of them break.

Most of them were moving the car near each container that they needed to trash their different items, while some were parking the car near one and then bring the things to the others walking. Some of them were also keeping the car switched on while dumping things in the containers, showing that they were in a hurry to finish and leave, which could be connected also to the cold weather of that day.



The map of the recycling centre.



The open containers in the station are for the things meant to be trashed, with is a building for hazardous items and electronic and a site for garden waste, while there is a covered building in which items for the direct reuse can be handled, but not taken. Those things are being repaired and sold in a proper shop. Genbrug, in which are working people with mental vulnerability. However, they accept only certain things and they don't want others, such as clothes, bicycles or hard appliances.



The entrance to the recycling centre.



The various containers disposed in a circle.



The building for the direct reuse.



The container for major appliances.



One of the container, in which people throw cardboard.

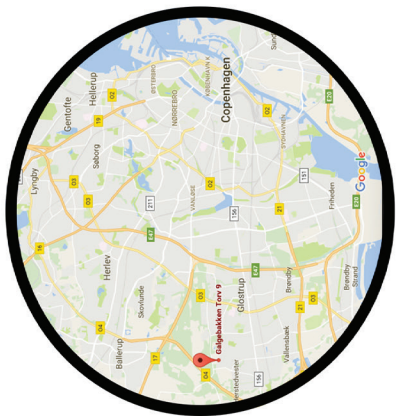
The **Genbrugsgården** in the neighbourhood Galgebakken, in Alberslund, is an open space for garbage collection with an area for the reuse. People can use it only in its opening hours and it is run by **volunteers** living in that neighbourhood that help to sort trash and to assess what could be reused instead. In the open space, there are several **containers** for various kind of waste, such as electronic. Then, there is a **room** for the things that can be reused and another **container** for books that can be exchanged. In the room for the reused things there are various kind of objects divided in **shelves**, which if not taken are going to be trashed after two weeks. It is not possible to bring clothes since they have another place to do that, not far away from it. It is a **private** service dedicated only to the inhabitants of the community in Galgebakken. Since it is situated in a walking distance from all the houses of the neighbourhood, but it is not accessible by cars, the inhabitants bring their stuff with different kind of transport, such as **wheelbarrows**, **bikes and electric wheelchair scooters**.



The map of the Genbrugsgården.



GENBRUGSGÅRDEN in GALGEBAKKEN



As observed, people are coming here also to **chat** among themselves and make **new connections** in the community, which is also one of the reason for the volunteers to participate in the project, creating a relaxing and enjoyable atmosphere. In fact, there is a **van** and a **table** with coffee for everybody that wants to spend time there. However, some people are **quick** to spot the interesting things and they take them from their owner even before he has the chance to put them into the room for the reuse.



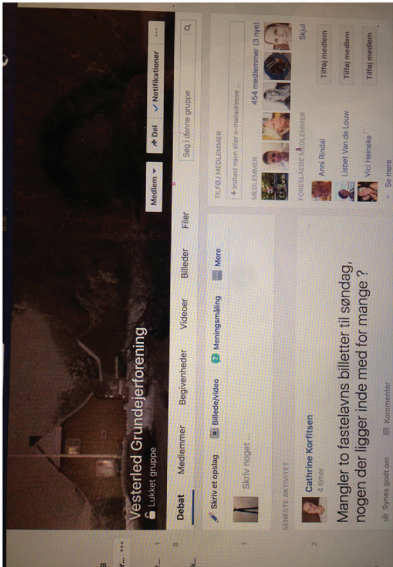
The table and the van for the volunteers, but not only.



The container for the used books.



The neighbourhood **Vesterled Grundejerforening** in Brøndby is composed of 200 households, mostly single houses but also some duplexes, in which live for the majority **electricians and carpenters**, which built, renovated or repaired their own house in the years. They have a **private** Facebook group in which they share different kind of information, such as bus timetable and events in the area, and they give away or ask things among each other, usually for **free** but sometimes they ask for a small payment. They mostly give away or ask for **construction materials**, such as tiles, wood or stones for the garden, but they also share their competences in building and restoring the houses. The atmosphere of the group is **enjoyable** and people are relaxed, asking for a small reward for giving away their things in a **joking way**, such as chocolate or beer. Also, they ask **favors** between each other, such as gifting sugar or lending a trailer. There are some people that lives in the area who administrate the page and there are some **rules**, for example that if a thing is sold or given the post about it should be deleted, even if not everybody always do that.

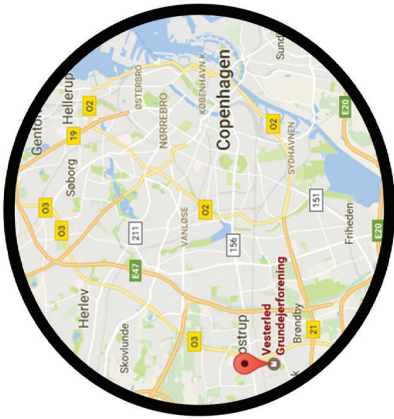


The page of the Facebook group.



A road of the neighbourhood with a van of one of the inhabitants.

VESTERLED GRUNDEJERFORENING in BRØNDBY



As observed, people are coming here also to **chat** among themselves and make **new connections** in the community, which is also one of the reason for the volunteers to participate in the project, creating a relaxing and enjoyable atmosphere. In fact, there is a **van** and a **table** with coffee for everybody that wants to spend time there. However, some people are **quick** to spot the interesting things and they take them from their owner even before he has the chance to put them into the room for the reuse.

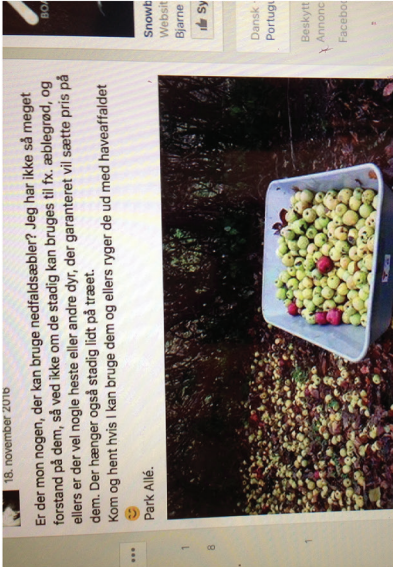


One of the houses in construction, with some materials around.

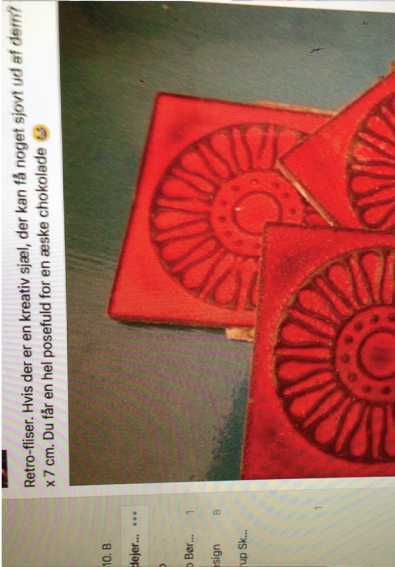
APPENDIX E



A trailer full of construction material that was lent to a neighbor.



A post in which somebody is giving away apples.



Here somebody is giving away tiles in exchange for chocolate.

<http://vesterled-gf.dk/>

APPENDIX F



A detail of the toys' section.



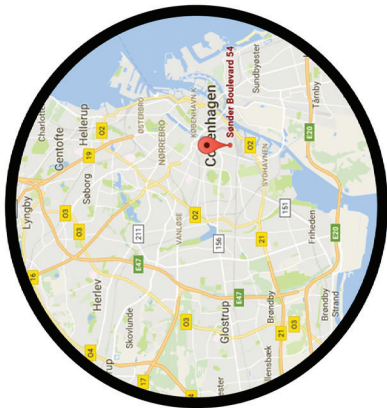
A detail of the clothes' section with the hangers.



The third side with the sections for books and miscellaneous.

<http://naboskab.dk/byttestation/>

BYTTESTATION in VESTERBRO



The byttestation is made of **98% sustainable materials**, such as recycled wood for the structure and Plexiglas for the doors, which are transparent to show the content to the users. The look of it was made **raw** on purpose to lower vandalism. It has **different sections** designed to fit the different things of different size that people can exchange, such as clothes, books, kitchenware and toys. So, for example, for the clothes there is an area with hangers, while for the books there are shelves, to help people understand quickly where to put their unwanted object and help to keep everything clearly in order. A **janitor** is taking care of it weekly by repairing and replacing pieces and organising the things inside.



The poster of the project with the collaborators on the side.

The Byttestation is a **exchange station** collocated in Sønder Boulevard, in Vesterbo, which was inaugurated on the 17th of June 2016 and was supposed to be taken off at the end of the same year, even if currently (Spring 2017) it is still there. It is a project designed by **Naboskab**, an organisation of Copenhagen that aims at creating a sustainable society based on strong social and local communities, for the pilot project of **Vesterby**, which results from the **collaboration** between Vesterbo Lokaldvalg, Områdeforvaltningen Vesterbo, Settlementet og Teknik- og Miljøforvaltningen and Københavns Kommune. The purpose of the project is to "Give things, take things, let things live" (In Danish: **Giv ting, tag ting, lad ting leve**). The aim of the byttestation was to serve as a **local gathering point** in which citizens can get rid of and obtain things for free, increasing the reuse in the area, but also adding value to it. The estimates about the use of the byttestation said that up to **150 kilos** of things passed through the station every day. The **location** of it was probably decisive to reach this amount since it is in a densely populated area with several people of different age, status and nationality passing by frequently.

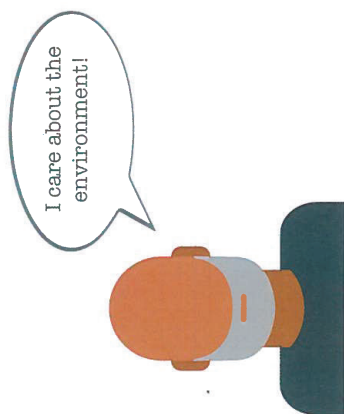


The first side with the sections for games, kitchen things, etc.



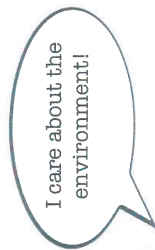
The second side with the sections for clothes.

APPENDIX G



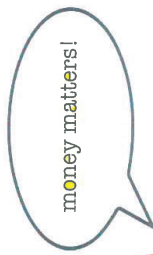
HOW TO LET HIM
KNOW ABOUT
THE SERVICES
FOR THE FREE REUSE ?

Guide - Community
Social Media
Fairs / Public Areas
Concerts / Publicity / Campaigns
Annual events exposing best ~~practices~~ local practices



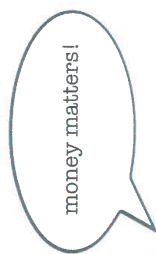
HOW TO LET HIM
KNOW ABOUT
THE SERVICES
FOR THE FREE REUSE ?

As he cares about the environment, there's a first assumption on the fact that he researches how to have less negative impact. Therefore, through groups such as UNGENERGI, zero waste DK, DIKOS... he can get information about the REUSE options in CPH.

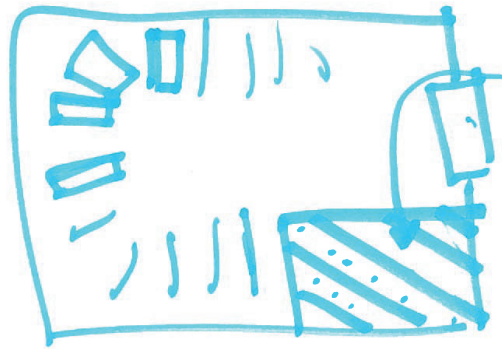
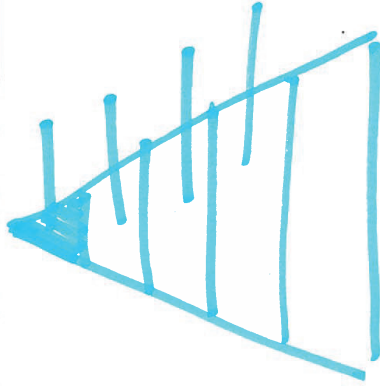


HOW TO LET HIM KNOW ABOUT THE SERVICES FOR THE FREE REUSE ?

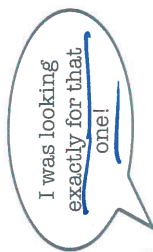
- ~~no bottles~~
- * water bottles
- x Plastic bags in supermarkets
- z Bottles / cans (drinks, beers, sodas, juice, water)
- x H&M garment service / voucher



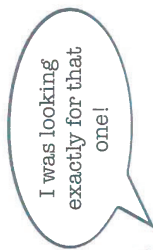
HOW TO LET HIM
**KNOW ABOUT
THE SERVICES
FOR THE FREE REUSE**



- * Social media
- * Web sites
- * 2nd hand gigs
- * -11- stores

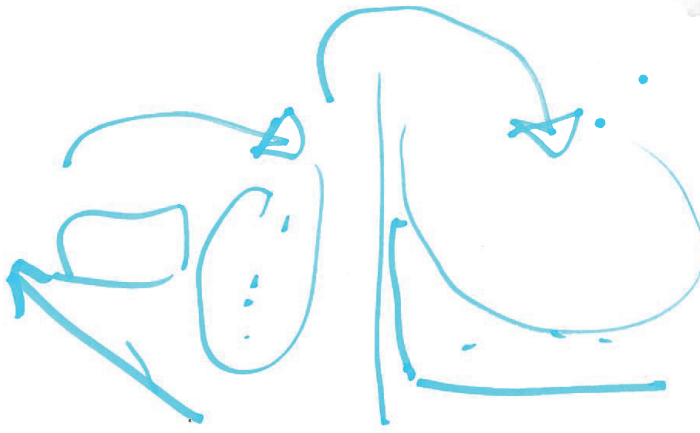


HOW TO LET HER
KNOW ABOUT
THE SERVICES
FOR THE FREE REUSE ?



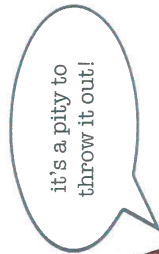
HOW TO LET HER
**KNOW ABOUT
THE SERVICES
FOR THE FREE REUSE ?**

Bisprengen



TADEL
daet

Free pick up things
+ Spokes to drop good things / Community)



HOW TO LET HER
KNOW ABOUT
THE SERVICES
FOR THE FREE REUSE ?

