

# **What Is Sharing: Sustainable Lifestyle and Neighbor Friendship In Student Community**

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# ABSTRACT

In the last decade, sharing economy, or its other names, has been discussed so much. Besides convenience and saving money, sustainable lifestyle and neighbor friendship are more beautiful things that sharing offers us. On the other side, it also leaves us full of confusion. Many researchers and entrepreneurs are arguing how to define it. In this research, I went through the beginning and evolution of sharing economy and give my own definition. Through case study of NeighborGoods, Peerby and Pumpipumpe, I summarized the valuable knowledge of their practice and some drawbacks that need to be overcome. After that, I started my user research in Helsinki student communities and understood how people there think about sharing. As an output, I made Shrgpr, a service that helps community members to share. Through all these design research and practice, I get to know how sharing are reforming our lifestyle, our relationship with neighbors and the community we are living.

*Keywords: sharing economy, sustainability, lifestyle, neighbor relationships, local community, non-profit, trust, security*

# 1 INTRODUCTION

## 1.1 Why do we share?

Living costs are increasing, while jobs are decreasing. In the metropolis, young generation are following their dreams. They live in small apartments and do not own much belongings. They do not want to purchase products they would only use a few times. Such truth results in popularity of second hand stores, local Facebook groups of housing and second hand, and peer-to-peer trading websites.

Even without worry of money, sharing could increase resource utilization efficiency and provide what commercial services do not cover. Properties, space, time and skills become exchangeable services. If you have a friend with good computer knowledge and some tools, you would not bother calling an IT expert.

Consumption is becoming a negative term. Human has realized the environmental harmfulness of over consumption and production. Economy built on endless purchasing and life style of throwing away unused things need a change. Sharing is an ideal solution by reducing overall consumption and increasing utilization rate of products. Reducing waste is meaningful for sustainable society. By sharing tools, books and games, we become more environmentally friendly.

Internet makes it possible to connect individuals from one side of planet to the other side. However, our nearest neighbors become the most distant people. Again, sharing economy provides opportunities for neighbors to interact with each other. It does not only bring convenience, but also make us healthier mentally and physically (Cohen, 2004). It will profoundly change the micro structure of society, too.

## 1.2 Research motivation

I grow up in a small village in China. In my memory, life means people share resources and help each other. It doesn't only save money for poor families, but also bring neighbors closer. In an undeveloped environment, connections of individuals and families make life easier and not alone.

Moved to Finland in 2014, I started a new life in a different environment. Like most university students, I often move from here to there. Owning very few things, life is hard when I want to install a lamp in a new apartment. I also feel lonely because I knows nobody in the neighborhoods.

In 2016, I moved to a student apartment in Espoo. It is a peaceful place but a little boring. I have no school friends living nearby. By lending a wrench and repairing a computer, I made some friends gradually. I found sharing and helping is a good opportunity to start a conversation with neighbors.

People are kind, helpful and trustworthy. Some people, like me, are shy and afraid to bother others. But when I have to ask for some help, neighbors are very helpful and reliable.

After that, I think I could create a service that helps people share and communicate. This became my master thesis topic.

### 1.3 Expected output

When choosing the research topic, I have following expectation of research results:

1. **Challenges of sharing economy.** There are many neighbor sharing services with nice ideas but failed in the end. Their practices can tell us what are the big challenges in this field.
2. **Motivation of sharing.** People can save money by sharing with each other. But it is not the only reason for sharing. Being friendly and helpful could also encourage sharing.
3. **Trust and friendship inside sharing community.** Trust and security may be key factors that make people willing to lend. Through sharing things, community members could connect with each other. They will probably change their feeling of life and gain satisfactory.
4. **A usable sharing service for a small community.** Instead of prototypes, I think that a real service brings more useful conclusions. Users might have very different opinions and behaviors in a specific solution, compared with a general simulation.
5. **Dynamic and sustainable service model.** The project was expected to be a permanent output, which will continue its evolution after the thesis work are finished.
6. **Collaboration with communities and organizations.** To make the service sustainable, collaboration with local tenants and related organizations is very helpful.

## **2 BACKGROUND**

### **2.1 Why sharing is becoming popular**

#### **2.1.1 Less consumption, less waste**

Here are many reasons to move forwards to sharing economy. But the most important one, which will change the entire future of human beings, is to end the long history of over consumption.

Enough is enough. As Botsman and Roo (2011) pointed out, our throwing-away living has pushed us into a critical and dangerous situation. More products are made, more resources are used and more pollution is caused. More products we consume, more waste we generate.

Unrestrained production is also driven by unwise consumption. People may buy something we need seldom, like a bike repair toolbox. Though here are bike shops can offer services which have much lower carbon footprint, many people still prefer to have one at home. Books, DVD, which are used for once in their life time, are not fully utilized by recycling and sharing. Only if people could change their way of consumption, could we have a sustainable future.

#### **2.1.2 Save money and space**

Human society consists of families. Inside a family, members share resources, and reduce the overall costs as much as possible. However, many youth are living alone without direct support from family. They have to purchase their own furniture, cookers, tableware, bikes, rather than share parents', which increased cost of living alone. In later research, I verified that young generation, especially university students, are much more interested in second hand trading and sharing.

When people own too many belongings, they need a larger space or even pay for self storage service. In the end, this increase their living costs again. The young generation who are studying, hunting jobs or just starting their career, are very likely to move. They move to a new apartment, which is closer to their school or office than the previous one. When they have to move frequently, owning too much becomes an obvious disadvantages.

#### **2.1.3 Internet make it possible**

Internet brings new possibilities for service design. With internet, both digital content and physical assets can be distributed. Mobile devices enable online-to-offline, peer-to-peer services to connect people in real life.

Belk (2014) think that the essence of sharing is exchange access, rather than the item itself. In era of the internet, especially after Web 2.0 and smartphones appeared, sharing access of items becomes much more easier.

### **2.1.4 New opportunities for startups**

In 21<sup>st</sup> century, we have seen the birth of many new services:

- Wikipedia: a free, up-to-date, large encyclopedia created by millions of users, instead of several experts.
- Couchsurfing: living in apartment of someone else, without paying anything.
- Streetbank: borrow things from neighbors, even if you do not know each other before.
- SwapADVD: exchange DVD you have watched with strangers, which do not require security deposit and compensation for damage.

With the power of internet and evolution of mindset, the connection between people in a service is not simply the trading between service providers and consumers. We have more understanding of human relationship in contemporary society. Trust and connectivity in online social network are stronger. Thus peer-to-peer systems become possible and popular.

### **2.1.5 Generation Y**

Generation Y is the first generation that grow up with internet, own computers and smartphones as teenagers. Their social networks heavily depend on internet activities and online interaction with strangers is very common.

According to Reisenwitz and Rajesh (2009), compared with generation X, generation Y is more satisfied with internet. They think learning new services is a good thing. They are more likely to catch chances and take risks.

These facts make innovative and experimental sharing services more acceptable for them than their previous generation.

## **2.2 What is the sharing we are talking about**

### **2.2.1 The endless argument**

Go back to the topic, sharing economy or collaborative consumption. It has different names and definitions. There are long time argument about what is really the sharing we are talking about for many years.



Botsman and Rogers (2011) illustrated a big picture of collaborative consumption era, consisting of house renting, car sharing, book and DVD exchanging, giving away, etc. The main point in their book is the redistribution of resources we have, rather than the way we do it or why we do it.

Eckhardt and Fleura (2015) think that Zipcar and Airbnb are not sharing at all. They are just one pays for the service of another. The motivation of providers and consumers are not based on willingness to help each other.

In Bauwens' (2005) opinion, a sharing economy system should not be profit-driven. Once a service become commercial, access to the service must be limited, which go against another characteristic of peer to peer social model. It is only person to person trading.

However, Belk (2014) has a very different definition. He think collaborative consumption or sharing economy must be users pay for the access of items or services that shared by others. Free sharing, like Couchsurfing, is not sharing economy. Traditional renting and gifting are also excluded.

Remember we emphasized that sharing economy can solve the problem of over production and wasting. However, once the service is profitable, it can cause over production. As we know, Airbnb is already building its own houses (Nguyen, 2016), and Uber will make their self-driving cars, too (Rosoff, 2017). This is far from the concept of sharing in any sense.

This is a basic I have to get my own answer before following research can be executed. I am not going to prove others' definitions are wrong but provide a base for my research direction.

## **2.2.2 Not all about money: comparison of Airbnb and Couchsurfing**

Airbnb and Couchsurfing are both popular peer-to-peer short-term housing services. The obvious difference of two is price: Airbnb provides cheap (usually) price than regular hotels, while Couchsurfing is totally free.

If we look into the core value and experience, we can find here are much more differences.

In the Airbnb platform, hosts can earn quite a little money from hosting surfers. This would become motivation of many hosts, instead of making friends. Airbnb used to advertise interaction and friendship between hosts and roomers, but now it wants to drop this marketing point. If the host just look for rent, they may not be willing to communicate much. However, in Couchsurfing, here is no capital income. Only possible reason that make people willing to share their home for free, is to meet interesting travelers and have a good experience with them.

According to Lampinen and Cheshire's research (2016), hosts of Airbnb have both monetary and social motivation, a mixture, while it is hard to say that human interaction is more important than financial benefits. At least the system clearly defined how much guests should pay for a night. However, here is no rules about how much conversations and social activities should they offer. For Airbnb guests, they

care the house's quality more than how interesting the host is. With assurance system, users can use the Airbnb more safely.

However, Couchsurfing is a very different network. Trust, friendship, local experience are its core values inside. When users search a place to stay, they are filtering people they would like to meet, not photos and prices of houses (like Airbnb and Booking). On the website, you can explore people have the same hobby and mindset, or quality and experiences you appreciate.

Without payment and financial assurance, the trust between users can only be built on understand of each other. Users need to let others know more about themselves, be friendly and interesting. Hosts have less pressure since they do not receive money from surfers. They expect to have good communication and experience with the new friends that they haven't known much. The surfer would have a responsibility to interact with his or her host, as the exchange for free staying.

Couchsurfing is a real community. Members are connected in groups. They have strong sense of community, connectedness, trust and engagement. Some users even prefer to contact via personal emails or SNS. (Rosen, Lafontaine, Hendrickson, 2011) However, in Airbnb, users are forbidden to exchange phone numbers, email addresses or Facebook ID. The communication is limited within the host and the guest, which is not meant to become lifelong friendship.

### 2.2.3 Yet another sharing definition

From the previous discussion, we can find the essential differences between a peer-to-peer trading platform and a free sharing community. They apply different knowledge and design methods. Service value and user experience also vary. Thus, to clarify the research topic of this thesis work, I need a clear and specific definition for "sharing".

I avoid using the term "collaborative consumption" or "sharing economy", which already have too much definitions. I would like to take the original meaning of sharing: a behavior of let others to access our resources without price, from the goodness of human beings. Sharing should base on the relationship between people and is an important way of communication. Participants should not be fully or partly motivated by financial profits.

From this definition, all services that cannot build relationship between peers, or the motivation of connection is not for helping or making friends, are not sharing.

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| <b>What is sharing</b> | <b>What is not sharing</b>                |
|------------------------|---|
| Couchsurfing           | Airbnb                                    |
| SwapADVD               | Zipcar                                    |
| Streetbank             | ofo (a public bike rent service in China) |
| Wikipedia              | Style Lend (a fashion rent marketplace)   |

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Table 1: What is sharing and what is not

More specifically, I will study the sharing of real things in daily life and simple helping people could offer. These may include tools, kitchenware, sports equipment, etc. But it would not include housing, car renting, suit renting, which are more valuable and require a complex system.

## 2.3 What are we really sharing?

In a sharing system, the ownership of resources doesn't change. People still own their belongings. Further more, their time, knowledge and skills are not be transferred to another. In this opinion, gifting and second hand trading are not sharing, because they changed the ownership of things and new owners may not continue the sharing loop (Belk, 2014).

When we share, we are giving others permission to use our resources. We also allow others to connect with us. Exchange use value and establish relationship. This is what happened when people are sharing.

In my definition of sharing, the exchange of use value is not balanced. One who help another may not receive anything immediately. However, he or she will get potential exchange in future, which is promised by the community, not the specific person they helped. That is why sharing system must exist in a community. Further, sharing behavior could encourage other individuals who benefit from it, and extend the network.

## 2.4 The rise and fall of thing sharing platforms

Sharing starts between friends. The first reason is very practical: people trust friend much more than strangers. The second reason is that friendship makes sharing and helping natural behaviors. However, contemporary urban structure makes it hard to build and keep relationship with neighbors. People's social network of school or company is likely very far geographically. Despite distance, we are not willing to message others one by one until find somebody able to help. Therefore, sharing services began to connect strangers through internet and increased shared resources of users.

The "drill problem" pointed by Rachel Botsman (2010) illustrated a brilliant future: share more, own less. People do not use drills often so why not rent a drill or lend to others and "*make some money*"? She believes it is a big trend that will totally reshape the world.

But it never happens. We have seen such many failures of neighborhood sharing services. Crowd Rent, Share Some Sugar, Thingloop, OhSoWe, SnapGoods had gone. NeighborGoods is still alive but in big trouble. (Kessler, 2015) Those "drill companies" truly save money for users but cannot persuade people to use their services more.

Tool sharing activities do not occur that often. You might need a screwdriver and a wire cutter to install lamps in a new apartment. But you probably would never need to change them in several years. Needs of "sharing drills" exist but service usage frequency is quite low. Even if the user base grows big, it is still

hard to be profitable. Another disadvantage is low participating passion. It is not like food sharing, car sharing or house sharing, which can keep an active community with a single function.

There are invisible costs that stop users from using drill sharing services. Time is valuable. If users have to spend two hours searching, messaging and traveling, the cost of lending a drill might be higher than own one.

Worry of trust is still a difficulty. Not all communities are well prepared. Relationships of neighbors are affected by culture background, local environment, social security and population mobility. A general service model cannot fit all situation.

In this research project, I look into a resident community of university students. Student residents have already benefits from sharing resources and helping each others. However, looking for help from neighbors is not that popular. Some community members even do not know that they can borrow something from others and others would like to help.

Rather than design a new service for people, I learn how people maintained their community and found their way to share resources and help each other.

Aims of the project is to find out:

1. How the composition and environment of residential area affect relationships of residents.
2. How trust and friendship affect peer-to-peer sharing and assistance.
3. What design can improve positive connection of community members and make sharing easier and more popular.

Meaning of strengthening neighbor relationship and sharing economy is not only to save living costs but also to create social values for community and individuals inside. With some small actions, we can improve residents' satisfaction and make them believe they are important members of large family.

## 2.5 Challenges and difficulties of sharing platforms

Thingloop, a stuff sharing website in UK, was found in 2010 and shut down only a year later. In their final words, they explained why thingloop came to an end:

We've had some great successes and high points, but at the end of the day thingloop has **failed to gain critical mass** and as a consequence has not proved financially viable. In short, **it doesn't pay for itself**. This has left the team tied up in their day jobs and unable to provide the support a site like thingloop needs. ("thingloop going bye bye...")

I found similar conclusion from other sharing platforms who have failed.

### 2.5.1 Low economic value

Value generated by sharing daily things is not big. This brought many disadvantages to those platforms.

An Airbnb host can get 50 euros per night. A Uber driver may earn a dozen dollars per ride. Both of them get many requests each month. However, daily things sharing generates much less value and people do not borrow very often. Unlike Uber solved the problem of calling taxi, Airbnb solved the problem of finding cheap hotels, sharing daily things is solved a relatively small problem.

Since the overall value transition in the system is low, startups has no way to make enough profits. Without monetary income for lenders, many do not have motivation to participate. In the end, the platform cannot grow large enough to become financially sustainable.

### 2.5.2 Low user stickiness

In later research, I found the occurrence rate of borrowing and lending is very low. Most interviewees cannot remember they borrow something from neighbors in the last few months. Though they share something with roommates quite often, this kind of connection is not included in most solutions. Though people do like the idea of sharing and social, only a few of them will actually lend and borrow on these sharing platforms.

Daily thing sharing platforms have very low user stickiness. Even if users registered an account, they may not need to borrow something for a long time, months or even years. With time gone by, connections between users and users, users and the system gradually fade out. It is impossible to build an active community.

### 2.5.3 Convenience

Sharing things help people to save money. But it may not as easy as buying from stores. Some invisible costs were ignored:

1. **Time.** Wait for answers and travel to the place.
2. **Fear.** Fear to be refused. Fear to interact with strangers.
3. **Reliability.** The lender may not be home or not replying messages.

So it is not easy to sharing is money saving and convenient.

### 2.5.4 Culture and society

The world is complicated. Different cultures and societies apply different knowledge of human beings. Nordic countries have high level social trust, but some others not. (Delhey and Newton, 2004) Urban areas and countrysides also differ in many aspects: population density, safety, living costs. A student apartment building can be considered as a different network than a complex neighborhood consisting of random people.

So, a successful service model in one community is likely to fail in another context. The service designer needs to understand people of each local community: who are they, what is their lifestyle, how they connect with others.

## 3 CASE STUDY

In 2017, there are still many services of sharing things. I choose three of them, which represent different service model and design strategy, for case study.

NeighborGoods is a traditional website for listing things people would like to share. Users can find others on a map. It have a long history since 2009. Streetbank has a very similar service model and was founded in 2010. They are pioneers of sharing economy though not popular as when they started.

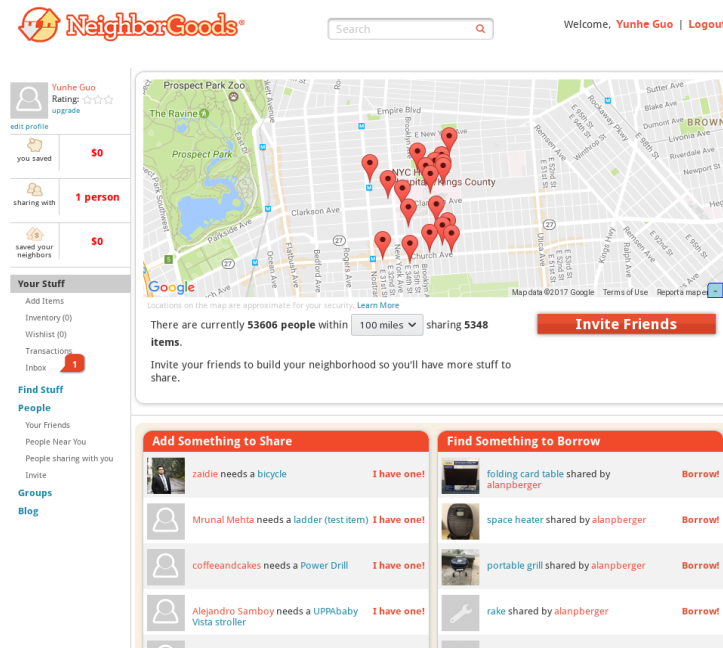
Peerby is a more modern service which provides both website and mobile applications. However, what makes Peerby different is that it has a different approach to connect users. Borrower cannot filter others on a map, but send requests to nearby people. So interaction and relationship of Peerby users are very different from NeighborGoods or Streetbank.

Pumpipumpe is much more special than all others. Rather than websites and applications, Pumpipumpe users use letter box stickers to connect with their neighbors in the same building or block. Here is no other rules. People can choose their way to share and communicate.

Through case study, I want to summarize their solutions for challenges and their own limitations. These will be important input to my own design.

### 3.1 NeighborGoods

NeighborGoods is one of those sharing companies which still survive in 2017. It provides a marketplace for listing, requesting and searching stuff to borrow.

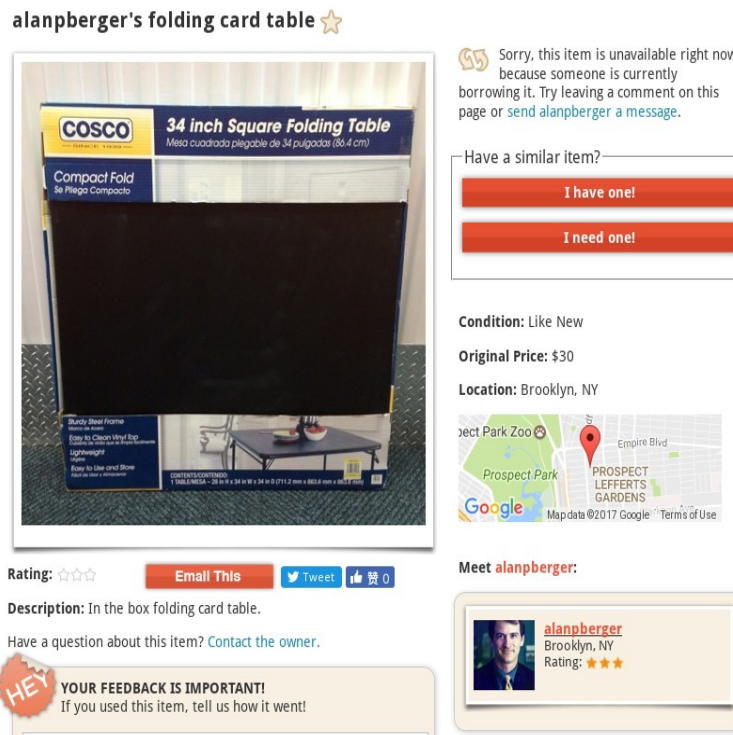


Picture 1: Homepage of NeighborGoods

NeighborGoods is a typical peer-to-peer platform. It has following features:

1. Listing items for sharing. People can create a page for their own stuff with short description and photos.
2. User profile. Both borrowers and lenders need a profile to introduce themselves.
3. Reviews and ratings for items and users.
4. Map and searching function.
5. Peer-to-peer lending and borrowing. Borrowing is free.
6. Activity timeline. All sharing, requests and lends will appear on the home page.
7. Social networking and privacy management. In NeighborGoods users can add "friends". Friends have stronger connection than other users. Users can set a limit that items can only be lent to friends they know and trust.
8. Deposit. In NeighborGoods, some items can only be lent to "Pro Users". Upgrading to "Pro User" cost a one time fee of US\$9.99.





Picture 2: item description page on NeighborGoods

According to crunchbase (2017), NeighborGoods was founded in 2009, based in Los Angeles, California. Though aimed global market, its target market is USA.

The most basic value of NeighborGoods and other similar services is saving money and storage space. People do not need to buy everything to get their functionality. With a website or mobile apps, users can find neighbors' sharing easily. NeighborGoods achieved this goal, but the solution is inconvenient.

NeighborGoods is a platform to share everything and here are a large number of items in the database. However, it is not easy for users to find and get what they need. Actually, users must borrow on the website by sending messages to the lender. Unlike Airbnb or Uber, NeighborGoods users are not likely to reply quickly. This make the borrow activity hard to progress. Some items are only available for "Pro Users" (upgrading requires one time fee). Some items are only shared between "friends". Most common situation is that "the item has been borrowed" but it might be that the lender or borrower just forget to change item status after returning.

Publishing stuff means writing descriptions, adding tags and uploading photos. However, for just lending a wrench, it is too cumbersome. In conclusion, the idea of "sharing online" should not consume many efforts of users.

Compared with Nordic countries, safety in USA is not good. NeighborGoods highlight that the services is safe and trustworthy. The strategy of NeighborGoods is every transaction must be requested and accepted online. Then a borrower can get the address and phone number of lender. It is left to users to

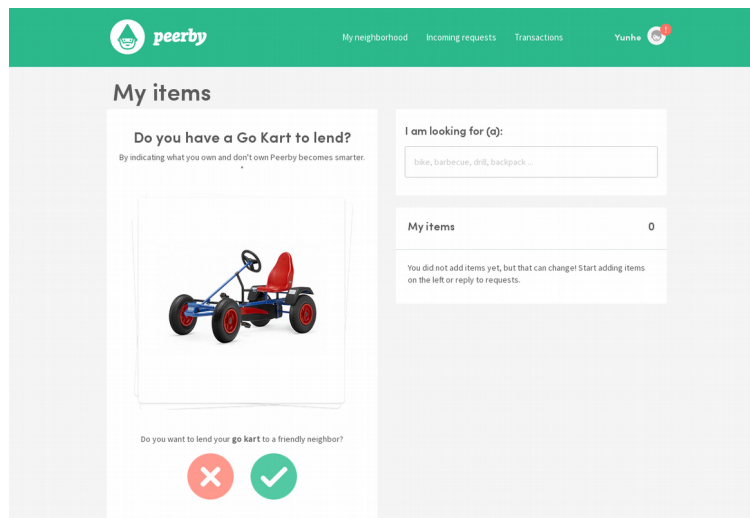
determine if they trust the person who wants to borrow from them. But this brings a big drawback: users are stuck on the website. They spend time on waiting answers, only for saving a little money.

## 3.2 Peerby

Peerby is a Netherlands startup. It connects neighbors and enable them to share things through a website and mobile apps. As mentioned by Peerby marketing materials, it has more than 10,000 active monthly users. (“Company Peerby News, Employees, and Funding Information”, 2016) In 2016, they raised 2.2 million dollars from users. (“Startup Peerby raises \$2.2 million from users”, 2016)

### 3.2.1 How it works

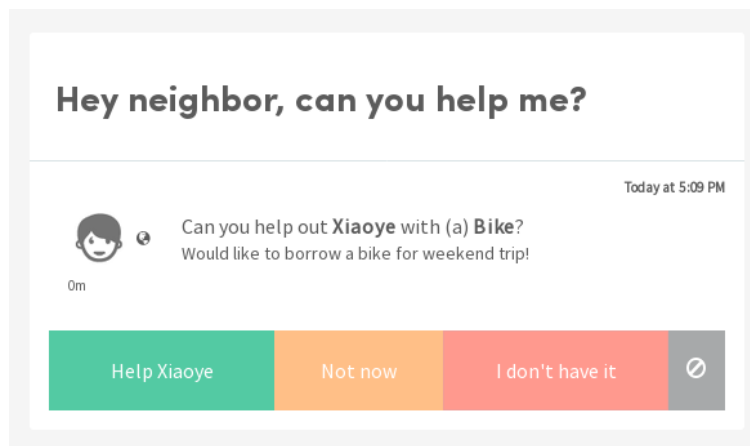
Unlike NeighborGoods or Streetbank, Peerby do not require you post photos of things you want to share or write description texts. Users will see a special Q&A page when clicked the share button.



Picture 3: Share items on Peerby website

In “My items”, users answer Y/N questions to choose what they have for sharing. Instead of typing text descriptions and uploading photos, you can do it with mouse clicks or tap on touch screen. The interaction is especially optimized for mobile applications, to make input faster and less stuck. However, questions are randomly ordered. There are so many things. Some of them are not that common, like a kart, a canopy, a laminate cutter. All these mean users may have to answer a lot of question before they meet what they have. Luckily, this is not the primary way of sharing. Users can help others without answering questions.

When someone nearby want to borrow something, you will receive notifications, even if you haven’t shared it before on Peerby. . Compared with listing what you have, Peerby is more like a messaging app, which connect neighbors automatically. After a user decided to help another user, they will join a chat. They can share more details and arrange a meetup.



Picture 4: Request sent to a neighbor

The connection between users are not made by users themselves. They cannot choose or know which person will receive their requests. It is totally decided by system, with a location based algorithm. In many places, there are only a few users joined. The system might send users' request to someone living in another side of the city, while they will not notice until they start to talk. Here is a list of neighbors but only with avatars and names. Users cannot see profile of others until they accepted the request and built a connection. In conclusion, the role of users is quite passive. This is the weakness of Peerby.

### 3.2.2 Verification and warranty

Peerby provides identity verification in their mobile apps. Their solution is to verify users' credit cards. Verified users will have extra badge, showing they are more trust worthy.

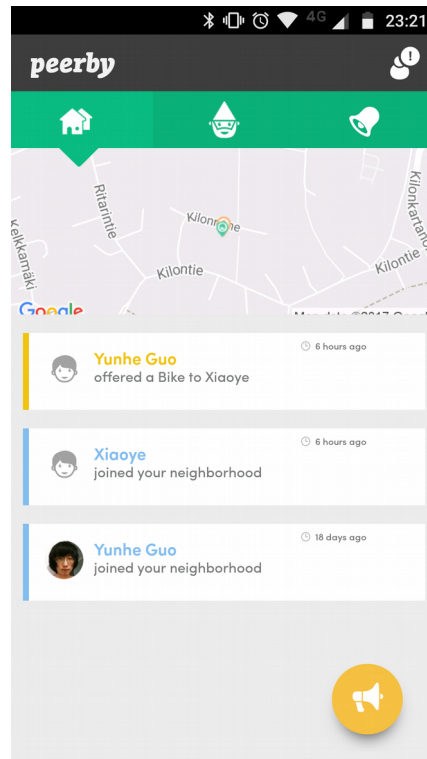
In addition, providing credit card information gives possibility of purchase Peerby Warranty, which give more guarantee to each transaction. Peerby tends to be a platform for sharing everything, from camp tent to van car. Those high value items require high level security system. That is why Peerby cannot just rely on trust to human nature and personal quality. As a startup, it is also the only way to gain profits.

### 3.2.3 User connection inside the network

Request based communication is the main peer-to-peer interaction in Peerby. Establishment of connection is controlled by system. Other than direct contacting, Peerby uses a broadcasting way to build one-to-many relations. It also allow users to agree on rules of sharing, exchange numbers, emails and addresses. This enable people to create better neighborhood friendship, even outside of the platform.

On Peerby website, my neighborhood page shows other users nearby, though location and profiles are hidden. On the mobile application, here is a feed of community activities: who has joined, who has

requested something, who has helped someone else, etc. (Picture 5) It is how Peerby manage communities and encourage culture of helping and connecting.



*Picture 5: Neighborhood feeds in Peerby mobile app*

### **3.2.4 Peerby GO: a different story**

Peerby GO is another product of the company behind Peerby. The aim of Peerby GO is very different from its sister. It is clearly a marketplace for lending anything with specific prices. Here is even delivery service included in the price.

Peerby is an open platform that everyone can join and start to share immediately. However, Peerby GO has a much higher threshold for “suppliers”, not “neighbors”. Only verified suppliers can publish information on the website. More profits mean more responsibility. “Customers”, not “neighbors” again, will give ratings and reviews to suppliers.

## **3.3 Pumpipumpe**

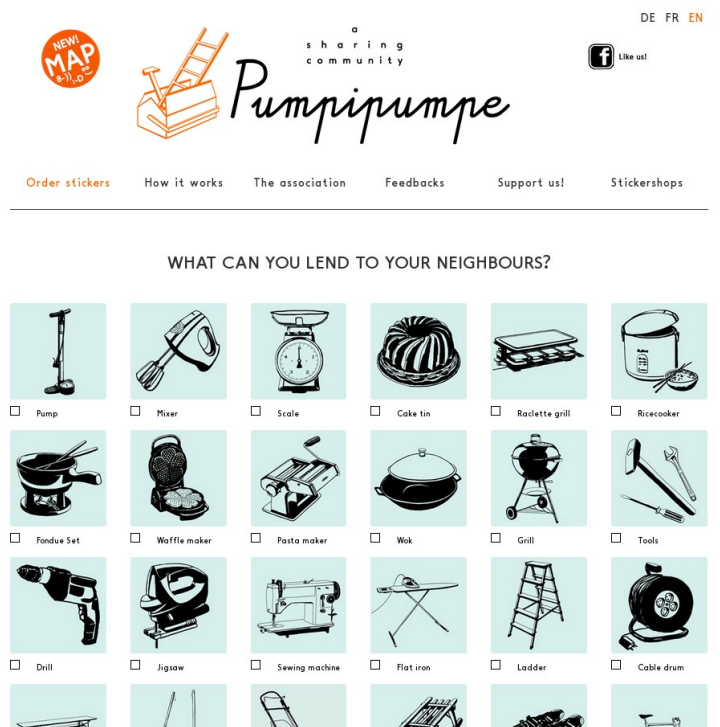
Pumpipumpe is a sharing community based on a simple idea: paste stickers on your letterbox so your neighbors know what you would like to lend.



*Picture 6: Pumpipumpe stickers on letterbox, photo shared by Pumpipumpe users*

Rather than manage a sharing platform, Pumpipumpe makes its task simple: sell stickers and let people decide how to lend and borrow. In early years, there is neither a website nor mobile applications.

By simply sharing information on mailboxes, people protect their privacy from exposing on the internet. Users can trust those borrow stuff from them are their immediate neighbors.



Picture 7: Pumpipumpe homepage screenshot, showing available stickers

Without a marketplace or Airbnb-like service, it enables users to get back the control of sharing activities. They can lend things for free or charge whatever the lender and the borrower agree.

It is easy to join the community and stay active. Just buy some stickers through the online shop or a nearby sticker shop, and paste stickers on letterbox or anywhere your neighbors might see. For lenders, they do not need to create a complex profile on websites or applications, upload photos and write descriptions. For borrowers, they avoid sending messages and waiting answers.

It also keeps people away from star-ratings and reviews, which are probably unnecessary because the following reason:

1. Reviews mean users have to list themselves on the internet publicly.
2. Writing reviews and dealing with arguments are very time consuming, while lending small stuff is just a small thing.
3. Most people are sharing for free, so borrowers hardly feel any unsatisfactory or suffer any losses.
4. Most shared things are not expensive, sensitive or easy to break.
5. People can express positive, thankful and friendly feelings face-to-face.

6. Negative reviews tend to be harmful for the community and stop people to share. However, it brings little benefits to help people find better choices.



Picture 8: a user is sticking stickers on her letterbox, photo shared by Pumpipumpe users

Recently, Pumpipumpe launched a map service, which allows users to mark their letterboxes on the map. Users still own the choice to publish their letterboxes or not. If they would like to share it on the internet, they only mark the location and stickers. Neither their names nor emails will be visible.



Picture 9: Pumpipumpe Map (beta) service register page

In this research project, I successfully build connection with co-founder of Pumpipumpe, Lisa Ochsenbein. Throw several emails, Lisa answered my questions and show her strong interest to the thesis project.

The project started in Switzerland and is also popular in Germany and France. There are more than 8,700 letterboxes registered on the map. Including unregistered local letterboxes, the number should be even bigger. It shows that at least in continental Europe, people love the idea of sharing in real life and the sticker solution is well accepted.



“We do not actively make our project popular ourselves. It is the people participating and talking about the project and sharing in general. And also Media coverage helps a lot.”

Sharing and helping have their root in culture. From country to country, city to city, the same idea may not work well in all places. Even though without cultural research, Pumpipumpe fortunately found target users who are ready for future life style.

“We have some feedback from people in the US for example, where they say they could not imagine opening their doors to a stranger ringing their doorbell (also a lot of people in Europe think that way I am sure). So yes, cultural background does make a difference I am sure. But we have not made any interview to really analyze this subject. We only see what cities order a lot of stickers and what cities do not. But we do not know why.”

Now Pumpipumpe provides 40 different stickers, from bike pump to WiFi password. As Lisa said, they asked many people what they want to share. Even though options are still limited, stickers provide a way to connect neighbors. In future, they could share more stuff without sticker coverage.

The Pumpipumpe Association was formed to support the project, making it sustainable. It is non-profit. Most of revenues are from volunteers’ donation and partner sponsors.

### **3.4 Key factor comparison**

To summarize the difference, advantages and disadvantages of three solutions. I made a table of key factors for evaluation. (Table 2)

The comparison is not going to determine which model is the best. Each model has its own strengths and weakness. Their practice can provide a good understanding of sharing things with neighborhoods. It will guide me when I design my own solution later.



|  | <b>NeighborGoods</b>  | <b>Peerby</b>   | <b>Pumpipumpe</b>   |
|--|---|---|---|
| <b>Founded in</b>                      | <b>2009</b>   | <b>2011</b>   | <b>2012</b>   |
| <b>Based in</b>                        | <b>New York City</b>  | <b>Amsterdam</b>  | <b>Zurich</b>   |
| <b>Costs</b>                           | <b>Free</b><br>but Pro users have some exclusive benefits.                      | <b>Free</b><br>by paying Peerby Warranty, users can get extra badges.               | <b>Sticker price</b><br>lenders need to purchase stickers while borrowers have no cost. |
| <b>Collections</b>                     | <b>Everything</b><br>Users can post anything they would like to share.          | <b>A large predefined collection</b><br>Thousands of choices from database.         | <b>A small predefined collection</b><br>40 stickers of everyday things.                 |
| <b>Value of items</b>                  | <b>From low to very high</b>  | <b>From low to very high</b>  | <b>Low</b>  |
| <b>Efforts to lend</b>                 | <b>High</b><br>Input descriptions and upload photos. Reply messages.            | <b>Medium</b><br>Reply messages. Choosing things is time consuming but optional.    | <b>Low</b><br>Just need to purchase stickers and post on letter box.                    |
| <b>Efforts to borrow</b>               | <b>Medium</b><br>Contact users by sending messages.                             | <b>Medium</b><br>Broadcast in neighborhood and wait for answers.                    | <b>Low</b><br>Directly visit neighbors.   |
| <b>Geographical scope</b>              | <b>Large</b><br>Same city or subdivision.                                       | <b>Large</b><br>Same city or subdivision.   | <b>Small</b><br>Only immediate neighborhoods.   |
| <b>Privacy level</b>                   | <b>Low</b><br>Users' location is public.  | <b>Medium</b><br>Only neighbors can see each other. Location will not be published. | <b>High</b><br>Users do not publish information on the internet.                        |
| <b>Minimum user base required</b>      | <b>Medium</b><br>Not all members are accessible or active.                      | <b>Large</b><br>Need many active users to response to requests.                     | <b>Small</b><br>One user can help all his or her neighbors.                             |
| <b>System complexity</b>               | <b>High</b><br>Post items. Send messages. Give reviews. Limits of non-Pro user. | <b>Medium</b><br>Send requests or response.   | <b>Low</b><br>Users do not need to follow any rules.                                    |
| <b>Required trust level</b>            | <b>Medium</b><br>Users allow strangers to message them.                         | <b>Medium</b><br>Users receive strangers' broadcast.                                | <b>High</b><br>Users trust and allow strangers to knock their doors.                    |
| <b>Neighborhood relationship level</b> | <b>Low</b><br>Not accessible sometimes. Higher chance to be declined.           | <b>Low</b><br>Higher chance to be declined.   | <b>Medium</b><br>Easy to reach. Lower chance to be declined.                            |

Table 2: Comparison of NeighborGoods, Peerby and Pumpipumpe

## **3.5 Important conclusions**

Though here are many differences between three case study, their share some common characters and support some similar practical experience.

### **3.5.1 Crowd-funding & non-profit is the future**

As I mentioned in Background chapter, many neighbor sharing startups failed because of not enough revenue. Sharing small, everyday things is not profitable. It has become a basic fact. In my case study, those services that have survived until today, all find their way to support themselves.

Pumpipumpe is a non-profit organization by a core team and a large network of volunteers. Its income comes from sticker sales. Though not much, the money is enough to pay the cost of website and events.

Peerby is commercial company though and has a larger team. It is mainly supported by crowdfunding. And the company has other profitable services, like Peerby GO.

NeighborGoods started much earlier than the other two. It planed to be a commercial service at the beginning. It still has the paid Pro subscription option. But in the end, it turned to be a non-profit project. The reason why they can survive for many years is that they have investors behind.

Despite revenue sources, all of them provide free service for users. The sticker price of Pumpipumpe can be seen as donation. Sharing economy was born with identity of social benefits. Thus donation and crowdfunding can be a possible business model. It will require the system could run with lowest costs and labors, introduce community volunteers.

### **3.5.2 Sharing succeeded in capital cities**

New York City, Amsterdam, Zurich. I found most sharing services started in capital cities. The population is large enough to get thousands of contributors. Borrowers can find lenders in a short distance and here are many choices.

In big cities, university students and young dream seekers are living a high-cost and unstable life. They are an important part of second hand and sharing platform users. This opinion is supported by following survey results in User Research chapter.

On the other side, none of them has ever succeeded in countryside and other low population regions.

### **3.5.3 The unit of sharing community**

For services like Airbnb and Uber, it requires both service providers and consumers are located in the same city. Their marketing strategies target on the whole city.

However, the measurement unit of stuff sharing services are much smaller. In Pumpipumpe, the unit is only neighborhoods that have letterbox together (less than 1km). Users will not likely travel 30 minutes to borrow a screwdriver.

As result, the growth of sharing community may be very slow. The city can be divided into hundreds of blocks. Each block requires efforts to bootstrap.

### **3.5.4 Trust is the basement**

Non of these services can provide financial assurance for each transaction since they are all “sharing for free”. They are all based on a certain level of trust. The trust is not only if the stranger will return things back, but also if the stranger is safe.

Trust is strongly related to culture, society and people. For example, in Switzerland, Pumpipumpe users can accept neighbors to knock their doors directly. However, in other countries, or a complex neighborhood, it could be a fearful thing.

To design a sharing service, designer must understand the trust level of local people. The required trust level of system should not exceed the trust level in environment. For an international service, it must adjust itself to meet the actual situation of each culture and society.

### **3.5.5 Balance between lender and borrower**

In daily life, borrowers ask lenders for something, while lenders do not need spend extra efforts. However, in sharing economy, those who help others have to spend more efforts. In Pumpipumpe, sharers have to purchase stickers. In NeighborGoods, sharers posts stuff and take photos. In Peerby, though every neighbor is in equal position, people who usually lend instead of borrow will find they are receiving many requests even if they do not own the thing at all.

Sharing platforms try to make the service convenient and efficient. However, most of those convenience is for the borrower, not the lender. Lenders provide resources and spend precious time. The unbalanced position may discourage some potential users to share.

### **3.5.6 Friendship is the currency, not trust**

Botsman (2012) describes trust as new currency in sharing economy in her talk. People gain trust by getting reviews. The more they participate sharing economy, the higher their trust level reach.

However, in my case studies, sharing services take neighborhood friendship and willingness of helping as the motivation of sharing. It is not wanted to evaluating how trust worthy people are. Users are not exchanging help with trust but a simple “thanks”, knowing each other and good self feelings.

As sharing services becoming non-profit, friendship plays an important role in a sharing network. It is the power that motivate individuals and construct local communities.

Though all these services give a reason for neighbors to communicate, the relation can be very short if the conversation is only inside the system. Even if they know phone numbers, emails, addresses of each other, here are not enough opportunities to contact. A standalone stuff sharing service can hardly build an active community and further friendship.

## 4 USER RESEARCH

### 4.1 Survey 1: sharing, helping and friendship in Helsinki, Espoo and Vantaa area

The purpose of the first survey is to find out how people think about sharing and relationship between strangers. Possibly target a specific user segment. Research targets are users of Facebook second hand and give away groups. In the end, I received 26 valid replies.

#### 4.1.1 Basic information

**Females are more interested.** 92% (24) participants are females, which is very surprising. This could be the major weakness of Survey 1, since it mainly reflects the opinions of women.

**Young people, mostly students, are more interested.** 81% (21) participants are between 21 and 30 years old. 77% (20) are university students.

**Foreigners are very active.** 23% (6) are Finnish and 19% (5) are Russian. Others are from Germany, France, Greece, Netherlands, Italy, Czech, Hungary, Romania, India, Vietnam, etc. The sharing community has a great diversity of nationalities and cultures.

#### 4.1.2 Apartments and roommates

30.8% people live in their current apartment less than a year, and 53.8% less than 3 years. 53.8% participants live in shared or friends apartment with roommates.

50% participants think they have close relation with their roommates. However, other 30.8% think they are not close friends.

77% participants are sharing resources with their roommates, like cleaning tools, cookers, tableware, WiFi. 69.2% participants had ever borrowed something from their roommates.

#### 4.1.3 Neighborhoods

27% participants say they have no friends living nearby. 50% participants haven't made any new friends with their neighbors.

Parties, school activities, and Facebook groups are top channels that people make new friends with neighbors.

69.2% participants never borrow things from their neighbors. Only 26.9% of people have experience of borrowing from neighbors.

34.6% participants trust neighbors they do not know and would like to lend things to them. 38.5% hesitant and 26.9% are not willing to share with strangers.

#### **4.1.4 Sharing and helping**

When someone needs something, 57.7% prefer to buy from stores. 34.6% and 30.8% would like to borrow from roommates and school friends. Only 23.1% want to ask neighbors.

When someone needs help, 61.5% will ask their school friends. 46.2% look for help from roommates. Only 23.1% will bother their neighbors.

73% participants think others are willing to share and help. 80.8% participants are willing to share their resources and help others.

92.3% participants believe sharing and helping could improve relationship between people.

## **4.2 Survey 2: Kilonrinne 10 and Kilonkallio 10 community**

Based results of Survey 1, university students are the largest potential user group of sharing platforms. Thus in next step, I shrink the research scope to student neighborhoods in Helsinki area.

HOAS, The Foundation for Student Housing in the Helsinki Region, operates the housing service under a non-profit organization. HOAS owns around 9,300 student apartments in Helsinki, Espoo and Vantaa. One important task of HOAS is to provide services that make tenants' life easier and happier. In each residential area, a volunteer tenant committee manages community resources and organizes social activities. They paid many efforts to enhance connection of individuals and create a safe, friendly and convenient neighborhood.

Since March 2016, I moved into a shared apartment of Kilonrinne 10, Espoo. And it was chosen my research environment. Kilonrinne 10 and Kilonkallio 10 is a student residential area that provides low-cost housing for hundreds of students. It is located in northeast of Espoo, just 2 km away from IT campus of Metropolia University of Applied Sciences. Unlike Helsinki, Espoo doesn't have a city center. Kilonrinne 10 and Kilonkallio 10 is not a bustling block at all.

Except survey audience, Survey 2 is very similar to Survey 1. Some general questions were removed, and a few new questions related to students were added. 11 valid replies were received.

In this survey, I got more gender balanced results: 54.5% females and 45.5% males. 63.6% are Finnish. Others are from Russia, Nepal and Pakistan. 81.8% are between 21 and 30 years old. This community consists of students mainly from Aalto University (2), Metropolia University of Applied Science(2), Laurea University of Applied Science(5). In theory, HOAS student apartments should only provide to full degree students. However, some non-students may sub-rent apartments from students.

54.5% tenants moved to here within a year. Other 45.5% live in current apartment for three years or longer. 54.5% students are living in single room apartment or studio, which means they have no roommates.

Survey 2 has a new question of community service usage. All survey participants are using Facebook group. 81.8% use HOAS website. 54.5% use shared laundry. 45.5% use clubroom. Only 27.3% use sauna and gym. Knowing what services people use helps me to understand how they are connected to each other in public space and channels.

School activities are main way to make friends with neighbors (54.5%). Many of them are studying in the same campus and have many chances to meet each other in courses, events and parties in the university. Tenant parties and Facebook group do not contribute much to new friendship.

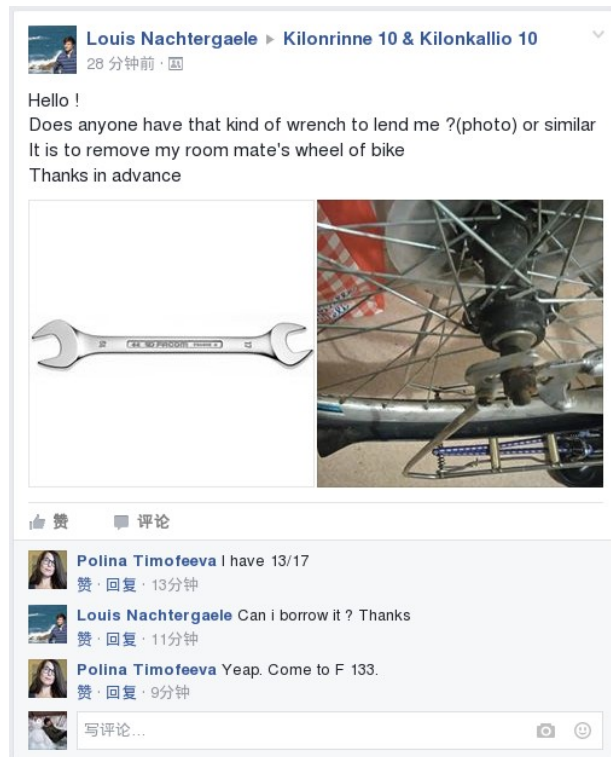
### 4.3 Sharing in Facebook Group

Facebook Group have become a popular platform to connect people living in the same area. In group "Kilonrinne 10 & Kilonkallio 10", neighbors ask questions, sell second hand stuff, borrow things and organize events. The group has around 500 members in April 2017, though some of them have moved out. The community is active, average one post per day. (Table 3)

| Lend & help | Second hand | Information | Rent house | Laundry | Other | Total |
|-------------|-------------|-------------|------------|---------|-------|-------|
| 4           | 16          | 7           | 2          | 11      | 16    | 56    |

Table 3: Facebook group post statistics from March 1<sup>st</sup> 2017 to April 30<sup>th</sup> 2017

Almost every month, here are one or two requests of borrowing tools and usually they get replied quickly. From March 1<sup>st</sup> to April 30<sup>th</sup> 2017, here are four posts of borrowing things or ask for help. Finnish are actively helping others. Three posts got offers from Finnish neighbors. However, I did not find Finnish borrow things from others. Foreigners, like French, Russian, Asian are more likely to ask others for help.



Picture 10: A post of borrowing a wrench in Facebook group

## 4.4 Tenant interviews

To learn more about people's views on sharing, I interviewed four tenants in Kilonrinne 10 and Kilonkallio 10 community. My interviewees are undergraduate or graduate students. They come from Finland, China, Pakistan and India. One is female and others are male.

### 4.4.1 Views on trust

**In Finland, people are trust worthy.** All interviewees said they can trust neighbors in Finland, especially students. They don't worry that people will not return things back or break them. Knowing where they live is also important since you can ask things back when the borrower forget to return.

**It is safe to share with strangers.** Safety is not a problem that prevents people from interacting with strangers in Finland. However, people have their preferences of building connection. Through internet is much more acceptable than knocking doors. Even people trust people, they are still nervous when a stranger visit their home.

### 4.4.2 Neighborhood relationship

**Isolated states and distance between individuals.** Most tenants have no friend living in the neighborhood. Except saying "Moi", they have very few interaction with neighbors. Foreign students



expressed their willingness to communicate more with locals. However, here is not much opportunities to have a further interaction.

**Willingness to make friends.** Even though it is okay to live alone and peaceful, interviewees think highly of knowing neighbors, meet interesting people and have good relationship in local community.

#### 4.4.3 Things for sharing

**Values do matter.** Values of things make difference to the willingness of sharing. People would like to share more valuable things with friends and roommates rather than neighbors they do not know well. They will hope the borrower take care of the item if it is something easy to break.

**Privacy is important.** If the thing is privacy sensitive, the willingness of sharing decreases. However, different people has different standard of privacy. Most people think PC and phones are sensitive. Some people think books or cookers are private things but others do not think so.

#### 4.4.4 Way of interaction

**Facebook private message is better than knocking door.** Interviewees feel it is not good knock neighbor's door directly. They also do not want to expose their address and phone number to strangers before confirmation. Facebook message is a good way for connecting. Users can control if they want to lend things to the person, have time to think and decide.

**Sharing information on the internet.** Compared with letter box stickers, interviewees prefer a web app or some additional function to Facebook group. People expect the way of sharing things is effortless and natural.

# 5 SERVICE DESIGN

There are already too many sharing platforms of all kinds of things. However, through case study, I found some weakness of existing solutions, which I would like to overcome in my design. In addition, findings in user research are also valuable input.

Through design and evaluation process, I could also discover more specific problems in the specific context.

## 5.1 Design goals

### 5.1.1 Easy and balanced

Users should not spend much time to share or borrow things. Efforts of between offering side and accepting side should be balanced. Existing services focus on borrowers' convenience, while this work put lenders' experience at the most important position.

### 5.1.2 Community based

Instead of sharing things within a fixed distance, the service should enable people sharing things in a community. In this case, it is student community. Student tenants have more trust with other students. And they are also more interested in making friends with other students.

### 5.1.3 Encourage sharing culture

It should make sharing a more popular idea in community. Let's those who haven't borrow things from neighbors have a try.

### 5.1.4 Collaboration

It provides possibility to collaborate with tenant committee and enable it as non-profit, community driven service.

## 5.2 Development process

The development process starts on the way of research going, so that I have enough time to make prototypes and finally program the software. In background research stage, I am still not sure if this would be a website, mobile application or physical product. To give myself more available options, I

learned more programming skills from school courses and internet resources from November 2016 to March 2017.

Concept designs come through the whole background research, case study and user research process. Most concepts have serious flaws and were abandoned. The final concept is a simplified website that works with Facebook. It is the only one that has the potential to meet all design goals and overcome practical challenges.

After two weeks of prototyping, I started the long process of programming. With two months intense work, I finally launched the service that people can use it in real life, not a paper concept or interactive prototype. I think the result I will get from real users worth all my efforts.

## **5.3 The final result**

The design output is an online-to-offline service based on a website and Facebook. It was named “Shrgrp”, means a sharing group. It was launched in 20<sup>th</sup> April, 2017. On 14<sup>th</sup> May, 2017, the Kilonrinne 10 and Kilonkallio 10 community has 13 members. Five neighbors shared 17 types of items, from tools to game consoles.

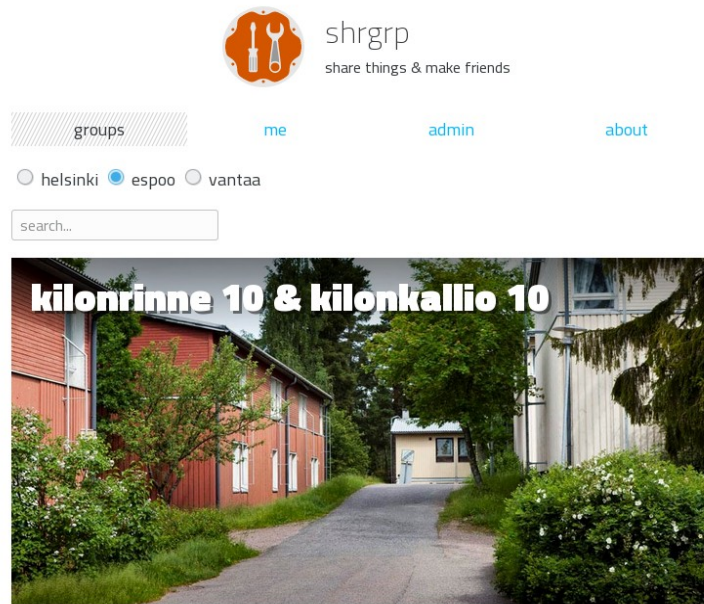
### **5.3.1 Community as unit of sharing**

Localization is the essential consideration of the design. Since the research is based on local environment of student community in Helsinki area, I decide not to expend the service to a national or even international scope. It will keep a small size, serve for a small group of people.

Existing sharing services mostly match users within a certain distance. The design thinking behind starts from convenience of users. However, Shrgrp focus on relationship of people. The unit of sharing is a local community, like a student apartment building. In such communities, tenants have more trust and understanding of each other, even if they haven't meet before. Also, they have more reasons to enhance their connection besides resource exchange. Finally, the neighborhood probably already has an active online community. The service cannot function with only one or two members. Only if enough members of the community joined, it can perform well.

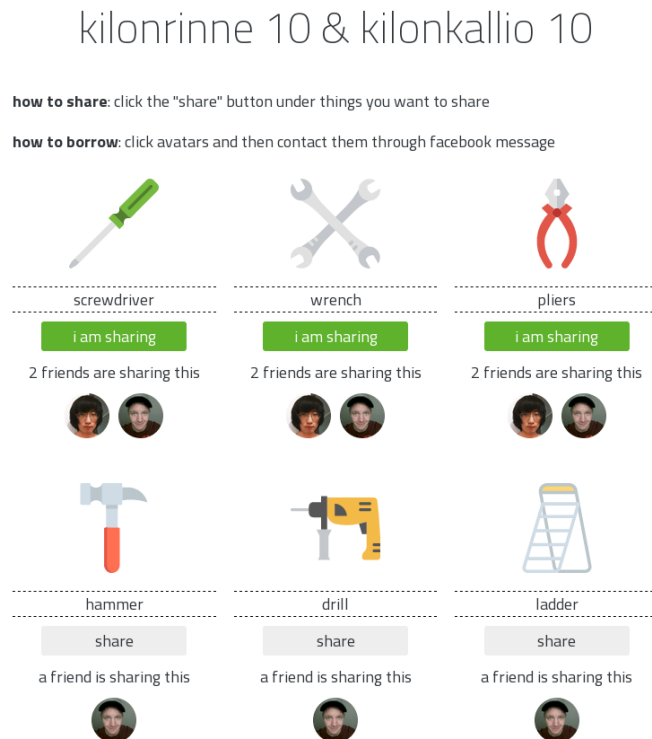
This decision is a part of overall design strategy. The service will grow larger community by community. In each marketing activity, I target people in the same neighborhood. The total number of users does not have meaning for an individual user. What matters for them is how many neighbors in their community are using the same service.

It also reflected one of key different design thinking with Shrgrp among others: Shrgrp means to improve the connection of whole community, not only two individuals.



Picture 11: Home page. Find group by name and city

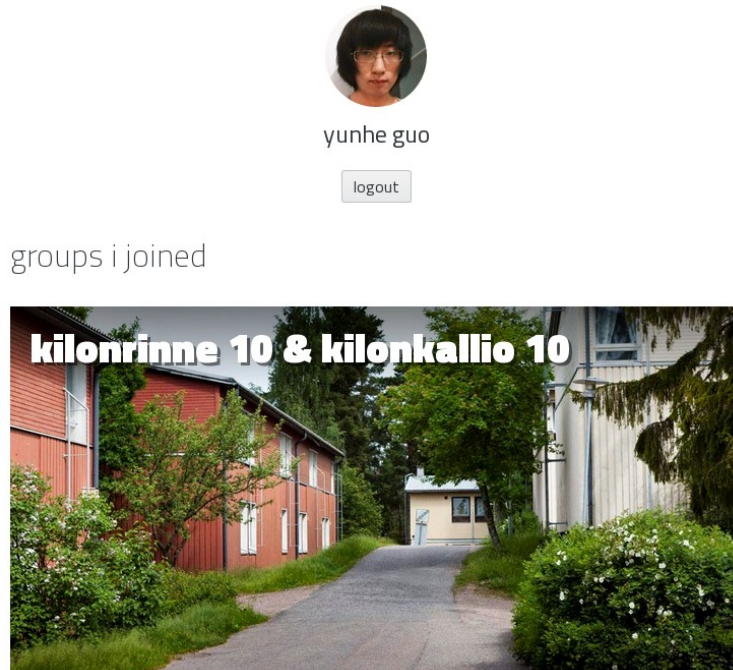
### 5.3.2 A simplified system



Picture 12: Group page with items and users who share them

The website provides three main pages:

1. List of groups with filters. (Picture 11)
2. Group page which list all items that can be shared and users who share it. (Picture 12)
3. User page of account information and joined groups. (Picture 13)



*Picture 13: User profile page*

With a simplified design, users can understand the system much easier and quicker. It also reduced the work required for development and maintenance. Some functions of the website, like user profile, messages and authentication, are using Facebook integration.

For a sharer, he or she only need to do the following steps:

1. Find the group their community. If they access the website through a shared link, this step is skipped.
2. Users will be asked to login with Facebook authentication.
3. Confirm and join the group by click "join" button.
4. Choose items they want to share and click "share" button.

The whole process can be done within only 3 minutes by several clicks. Borrowers follow similar interactions, except that they need to message the sharer on Facebook. Required effort of sharers and borrowers are balanced.

### **5.3.3 Use and leave**

The website is designed as “use and leave”. Sharers do not have to visit this website to check if there are messages from others. Borrowers do not need to follow request progress on the website, either. The website only serves as a bridge of people who need help and who can offer help. Their communication actually depends on the social networking service they have already been using.

### **5.3.4 Integration with Facebook**

Instead of creating new communities and social network, my solution is a combination of Shrgpr website and Facebook.

The most basic integration is Facebook authentication. Users can use their Facebook account to login, without typing username and password. Besides easy interaction, it also brings possibility to contact each other through Facebook. Even if users do not visit the website or subscribe email notification anymore, they can still reach the person who shared things they need. Facebook has become an important communication method for both friends and strangers. Since many users will visit Facebook website or open Facebook mobile apps very often, they can get quicker responses.

From my interviews before, Facebook messages is much more acceptable than phone calls or knock on the door directly. It is considered more safe and has better privacy controls.

Communication through Facebook has many other benefits. Users can have a better understanding of each other from public profile on Facebook. Possibly create opportunities to interact with each other. This connection can become the beginning of their further friendship. This is what existing solutions can hardly provide.

Besides Facebook messaging, Shrgpr is also connected with Facebook groups. The connection was built by a contact person in each community, responsible for promoting the service. Each group on the website matches with a Facebook group. As a new service, Shrgpr cannot build another community platform but can take advantages of existing network. An active community is the basement of the sharing service. The former motivates people to participate later. The latter enhances the connection in the former.

# 6 DESIGN EVALUATION

Design evaluation was done through two different approach.

The first approach is to invite people to test performance and experience of the service. This approach is helpful to learn how users really interact with the user interface, what kind of difficulties and questions do they have. However, since people were invited to the test process, I cannot get the real reason why people join and share.

Luckily, I already got some users who are using the website. So in the second approach, I interviewed and surveyed existing users of the service, listening to their stories. Some users even take the initiative to give feedback and help to improve. Though cannot observe new users' behaviors, I am able to understand what is the motivation of participants and how they decide to share something.

## 6.1 Interaction performance

Shrgrp was launched in April 20<sup>th</sup> 2017, while it is not well prepared that time. Fortunately, I have enthusiastic community members in Kilonrinne 10 and Kilonkallio community. They do not only show their interests and likes to the idea, but also help to solve the problem they found. With their assistance, I have improved the stability and usability of website through the first week.

After that, in four user interaction observation, users can finish the task of sharing in several minutes. Compared with the solution of Pumpipumpe, Peerby and NeighborGoods, steps and time required are much less. The system structure is more easy to understand, with less "how it works" introduction.

## 6.2 Trust & privacy

In one group on Shrgrp, 13 users have joined, and four of them shared something. Some users still worry about security and privacy when they have to list themselves publicly. But I think Shrgrp has successfully provided a reliable interaction approach and minimized the risk of privacy exposing.

In early user research, I have found females are more interested in sharing over males. However, in actual results, Shrgrp has much more male users. Through later interviews and surveys, female users will consider more before they click the "share" button. However, it seems that males have less worry. What users actually think and behave and differ if they were given a real and specific scene, rather than general talking or simulation.

### **6.3 User connection**

Most users agree that using Facebook messaging is a better way to connect people. It is also useful to know “who you are” before answering a request. However, there are doubts whether people can truly make friends with it. Sharing is a simple and short interaction. With heartfelt thanks, the conversation usually ends.

Even though neighbors cannot become friends by just sharing a tool, the interaction has more or less connected them. The original idea of Shrgpr is not to be an isolated platform. It is a part of the neighbor network. With connections built before, their further communication are more possible. Some users said they have more interactions on Facebook or in real life with those who have helped them before.

### **6.4 Community**

In this section, I compared two communities: Kilonrinne 10 and Teekkari Village (Otaniemi). In Kilonrinne 10, there are fewer students from different schools. Many of them are living far from their campus. Tenants describe the life here as “peaceful but boring”. In Teekkari Village, thousands of Aalto University students are living together and the school is just 5 minute walk away. There are also more activities and social networks.

Since the service was launched, the participants from Kilonrinne 10 community is twice of Teekkari Village community. Considering their number of members, we can see Kilonrinne 10 community has obvious bigger interest in the project. In Teekari Village community, school friend network can partly or fully replace the neighborhood network. Thus its community members do not have that much motivation to communicate with neighbors as Kilonrinne 10 community members.

In conclusion, Shrgpr completed its mission on improving community connectivity. However, this is not for all kinds of student neighborhoods. Those smaller and isolated communities are its best targets.



## 7 CONCLUSION

Sharing has been in human's life before the history. In the last a hundred years, we have created so many products. Endless consumption has become our lifestyle. We have given up the way of living with few things. However, global environment challenges and economy crisis reminded us that here is another choice. With the power of internet, we are able to connect with more people and redistribute all kinds of resources: things, abilities, knowledge and time. By sharing things, we can live with fewer resource and energy consumption, meaning we create less waste and pollution.

Going through many failed and succeeded sharing services, I found thing sharing services have some special features. Sharing services could only create few profits and have low user engagement. This caused many failures of startups. However, some successful examples found sustainable service model of non-profit or crowdfunding. They also have many other innovations to increase usability and experience, and bring more values for users.

The most interesting part of my research is to understand how sharing can change the relation between neighbors, especially those who haven't been familiar with each other.

All sharing platforms rely on a certain level of trust. Trust is an important condition and will affect the interaction of between peers. In Shrgrp, the way of sharing match the trust level reflected in user research, which enable many people, but not all, to share without worry of security. However, trust is neither motivation nor value output of sharing. It is the basement. In addition, privacy also plays a special role in a strangers' network. Users would like to have more control with their contacts and avoid unnecessary disturbing.

Sharing services are building friendship between neighbors. Since sharing is becoming free and non-profit, friendship becomes the main motivation and key value of sharing. Most existing services, like Peerby and NeighborGoods, have many system rules applied to the communication process. They have purposes to protect safety or privacy, but also create difficulties for interaction between users. Creating new online communities are very likely to fail because users won't use the website or application very often. In Shrgrp, I borrow the social power of Facebook instead of creating another. Its "use and left" design enables users to connect even if they do not visit the website anymore. It also owns active local communities in form of Facebook group. Shrgrp and Facebook groups can strengthen each other by sharing and making friends.

Shrgrp has fulfilled most of its design goals. In practice, I found more things to be kept in mind. What I have learned from this project will help me to develop Shrgrp into a higher level. The knowledge generated is also useful for other sharing projects.

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## 9 REFERENCE

1. Botsman, Rachel. *Rachel Botsman: The Case for Collaborative Consumption*. TED, 2010.
2. Botsman, Rachel, and Roo Rogers. *What's mine is yours: how collaborative consumption is changing the way we live*. London: Collins, 2011.
3. Botsman, Rachel. "The currency of the new economy is trust." *TED Talks*. [Talk] Retrieved from [http://www.ted.com/talks/rachel\\_botsman\\_the\\_currency\\_of\\_the\\_new\\_economy\\_is\\_trust](http://www.ted.com/talks/rachel_botsman_the_currency_of_the_new_economy_is_trust) (2012).
4. Bauwens, Michel. "The political economy of peer production." *CTheory* (2005): 12-1.
5. Eckhardt, Giana M., and Fleura Bardhi. "The sharing economy isn't about sharing at all." *Harvard business review* 28 (2015).
6. Kessler, Sarah. "The Sharing Economy is Dead and We Killed It." *Fast Company* (2015).
7. "Homes for students" HOAS. Web. 12 Dec. 2016. <https://www.hoas.fi/en/hoas/>
8. "NeighborGoods" *crunchbase*. Web. 18 Mar. 2017. <https://www.crunchbase.com/organization/neighborgoods>
9. Cohen, Sheldon. "Social relationships and health." *American psychologist* 59.8 (2004): 676.
10. Wiedmann, Thomas, et al. "Examining the global environmental impact of regional consumption activities—Part 2: Review of input–output models for the assessment of environmental impacts embodied in trade." *Ecological economics* 61.1 (2007): 15-26.
11. Belk, Russell. "You are what you can access: Sharing and collaborative consumption online." *Journal of Business Research* 67.8 (2014): 1595-1600.
12. Reisenwitz, Timothy H., and Rajesh Iyer. "Differences in generation X and generation Y: Implications for the organization and marketers." *Marketing Management Journal* 19.2 (2009): 91-103.
13. Lampinen, Airi, and Coye Cheshire. "Hosting via Airbnb: Motivations and financial assurances in monetized network hospitality." *Proceedings of the 2016 CHI Conference on Human Factors in Computing Systems*. ACM, 2016.
14. Rosen, Devan, Pascale Roy Lafontaine, and Blake Hendrickson. "CouchSurfing: Belonging and trust in a globally cooperative online social network." *New Media & Society* 13.6 (2011): 981-998.
15. "thingloop going bye bye..." thingloop blog. 2011. Web. 15 Mar. 2017.
16. Delhey, Jan, and Kenneth Newton. *Social trust: Global pattern or nordic exceptionalism?*. No. SP I 2004-202. WZB Discussion Paper, 2004.

17. "Startup Peerby raises \$2.2 million from users" *Peerby International Newsroom*, 2016. Web. 15 Mar. 2017. <http://press.peerby.com/125333-startup-peerby-raises-2-2-million-from-users>
18. "Company Peerby News, Employees, and Funding Information" *VB Profiles*. 2016. Web. 15 Mar. 2017. <https://www.vbprofiles.com/companies/peerby-551438d6b4a913dc55007415>
19. Nguyen, Clinton. "Airbnb is starting to build its own lodging for tourists" *Business Insider*. 2016. Web. 20 Mar. 2017. <http://www.businessinsider.com/airbnb-samara-urban-planning-2016-8>
20. Rosoff, Matt. "Daimler will make self-driving cars for Uber" *CNBC*. 2016. Web. 20 Mar. 2017. <http://www.cnbc.com/2017/01/31/daimler-will-make-self-driving-cars-for-uber.html>