cycle

creative reuse

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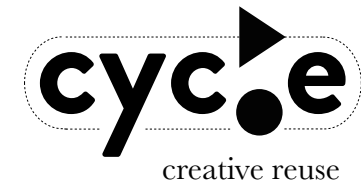what

or

how

I
CONSUME?

Designing a new platfom
to enhance and adapt second hand use
in art supplies and course matierials.

cyc▶e

creative reuse

Designing a new platfom to enhance and adapt second hand use in art supplies and course matierials.

a thesis project by
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MARTA CORUBOLO

ABSTRACT_eng

The economy world is in a shift towards collaborative economy. This shift requires an extensive change in behavior which has started to be adapted only by niche markets. To create a larger and more solid 'change' the markets needs to be enlarged and target both individual and social dimensions.

During this shifting period aiming to enlarge the variety and increase the rate of second hand consumption may contribute to the stability of resulting in collaborative economy. This contribution will enhance the product efficiency, material life extension and product life optimisation as well as adapting a required change in behavior of an individual.

Starting from this idea, the aim of this paper is to review recent literature on the history of consumption to mark out the relations between collaborative economy & second hand consumption. The purpose is to create a Product Service System for universities, targeting especially design and architecture faculties, which allowes students to access and to use second hand art supplies and course materials.Also second hand consumption and donating behavior is aimed to be improved and adapted in a larger scale.

ABSTRACT_it

L'economia globale si sta muovendo in direzione della Share Economy. Questa direzione necessita un estensivo cambiamento nei modelli di comportamento, ad oggi adottato solo da alcune nicchie di mercato. Per stimolare un "cambiamento" più esteso e solido, il mercato necessita di essere allargato e dovrebbe mirare sia agli individui che all'intera società.

Durante questo periodo di cambiamento l'incremento del tasso di consumo di oggetti di seconda mano potrebbe contribuire alla stabilità dell'economia collaborativa. Questo contributo migliorerà l'efficienza dei prodotti, estenderà la vita dei materiali, ottimizzerà le funzionalità degli oggetti e cambierà il modo in cui le persone si comportano nei confronti degli oggetti di seconda mano.

Partendo da questa idea, lo scopo della mia tesi è di sintetizzare la letteratura contemporanea sulla storia del consumo per indicare la relazione tra l'economia collaborativa e il consumo di seconda mano. Lo scopo è la creazione di un Product Service System per le università, più precisamente le facoltà di architettura e design, che permette agli utenti di accedere a articoli d'arte e materiali dei corsi scolastici di seconda mano.

METHODOLOGY

Examining the Field, Literature Review

The data in the article A Second-hand Shoppers' Motivation Scale: Anteced-ents, Consequences, and Implications for Retailers (Denis Guiot, Dominique Roux) will be examined and mathced with the recent market research on Collaborative Consumption market reports.

Exploratory and Descriptive Research, Field Survey

In- depth interviews with Lab workers & RISD 2nd Life Team.
Surveys & feedback sessions with design and architecture students.

Empirical Research, Prototyping

The prototype has taken Politecnico di Milano- Campus Bovisa and the collaboration of the university is required as follows:
- Administrative permissions.
- Publicity through communication channels. (e-mail, course webpage etc.)
- Providing a physical space.
- Providing an online web space.

The duration of the prototype was two weeks with collaboration of Prof. Davide Fassi's Temporary Urban Solutions Workshop, data have been collected and recorded to improve the lacking points to derive the final product.

RECOMMENDED READINGS

Botsman, Rachel, and Roo Rogers. What's Mine Is Yours: The Rise of Col-laborative Consumption. New York: Harper Business, 2010. Print.

Norman, Donald A. Emotional Design: Why We Love (or Hate) Everyday Things. New York: Basic, 2004. Print.

Lovell, Nicholas. The Curve: From Freeloaders into Superfans: The Future of Business. N.p.: n.p., n.d. Print.

Jeremiah, Owyang, Tran Christine, and Silva Chris. A Market Definition: The Collaborative Economy. June 4: Altimeter, 2013. Altimeter Research Theme: Digital Economies. Web. 21 Nov. 2013.

Sacks, Danielle. "The Sharing Economy | Fast Company | Business + Innovation." Fast Company. N.p., n.d. Web. 08 Apr. 2014. Web.

Roux, Dominique, and Michaël Korchia. "Am I What I Wear? An Explor-atory Study of Symbolic Meanings Associated with Secondhand Clothing." Advances in Consumer Research 33/3 (2006): n. pag. Print.

Roux, Dominique, and Guiot, Denis. "Measuring Second-hand Shopping Motives, Antecedents and Consequences." Recherche Et Applications En Marketing 23.4 (2008): 65-91. Web.

Claudio, Luz. Waste Couture: Environmental Impact of the Clothing Indus-try. Environ Health Perspect. 2007 September; 115(9): A449–A454. Web.

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IDEA GENERATION

1. Introduction

Idea Generation of this thesis is based on convergent thinking method which is described as problem solving technique in which ideas from different fields or participants are brought together (synthesized) to find a single optimum solution to a clearly defined problem. The issue came afterwards thinking about the opportunity use the excessive materials in design and architecture faculties, which decided to be used as a model behavior in the issue of transition phase to collaborative economy.

WHAT IS THE ISSUE?

The world wide economy is in a transition stage from 'social media driven customer experience era; to 'collaborative economy era' [1]

This era requires a big factor of change in behavior as; adapting the notion of 'sharing' goods and services, which is also highly beneficial in sustainable frame. The innovator companies are already moving into 'Collaborative Economy' model, such as Airbnb, Zipcar etc.

However, the permanency of this newly adapted behaviour will take time of the consumer and effort of the supplier, therefore the shift should be implemented in a familiar and easy way.

Second hand use is the familiar approach towards this focus. In this way, usually the goods are being shared in time, not on time as in collaborative consumption, but with small changes in second hand consumption the difference in between can be minimized and a shift action can be maintained to make the new era sustain for a longer period of time after the expected and inevitable fall of hyperconsumption. Also second hand use is a familiar approach to the traditional consumer which has not even adapted themselves to the customer experience era, so to raise awareness about second hand use may enlarge the objected consumer audience.

Second hand use is a way to improve the product life-cycle, a social act; endurance and responsibility to nature, resources and to users money & time.
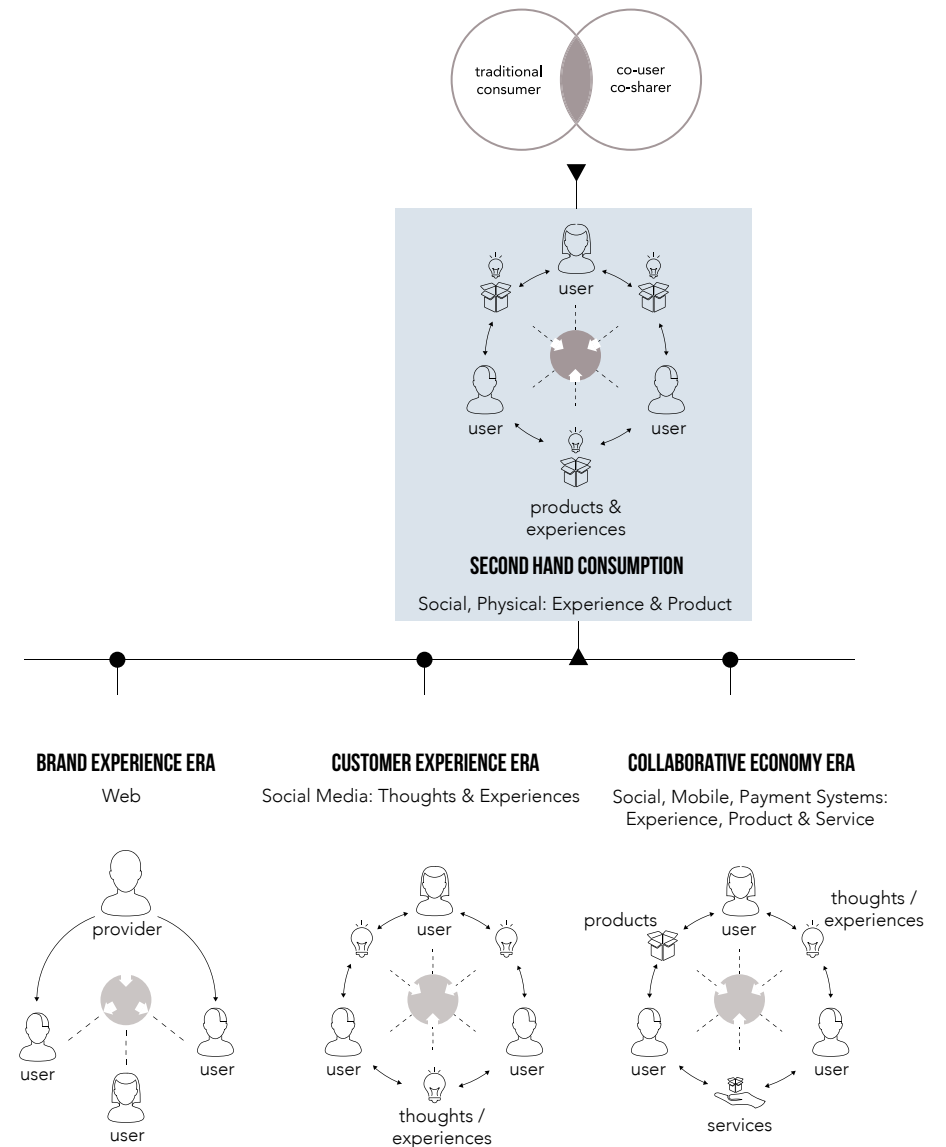
Fig.1.1 Late phases of the economy and second hand consumption.

1-Jeremiah, Owyang, Tran Christine, and Silva Chris. A Market Definition: The Collaborative Economy. June 4: Altimeter, 2013. Altimeter Research Theme: Digital Economies. Web. 21 Nov. 2013.

AIM

The aim of **The Cycle** is to implement a service about second hand use, in universities, specifically design and architecture faculties, to raise the rate of use and adapt the behavior to benefit from economic aspects, social inclusion as well as to create an environmental impact.

The architecture and design faculties are chosen due to 3 factors:

1- High, excessive consumption,
2- Expensive prices of supplies and materials,
3- Uneasy access to the materials and supplies

Anti-consumerists and smart shoppers are the first aimed target group, which are high in number among university students, due to the economical and recreational motivations.

The small change in behaviour of usual second hand use in this project is, to consume goods while considering the 'second life' of the goods. Therefore the donator will benefit from the system with the quality and quantity of their donations with a credit method and will be able to use their credits as currency to buy in future.
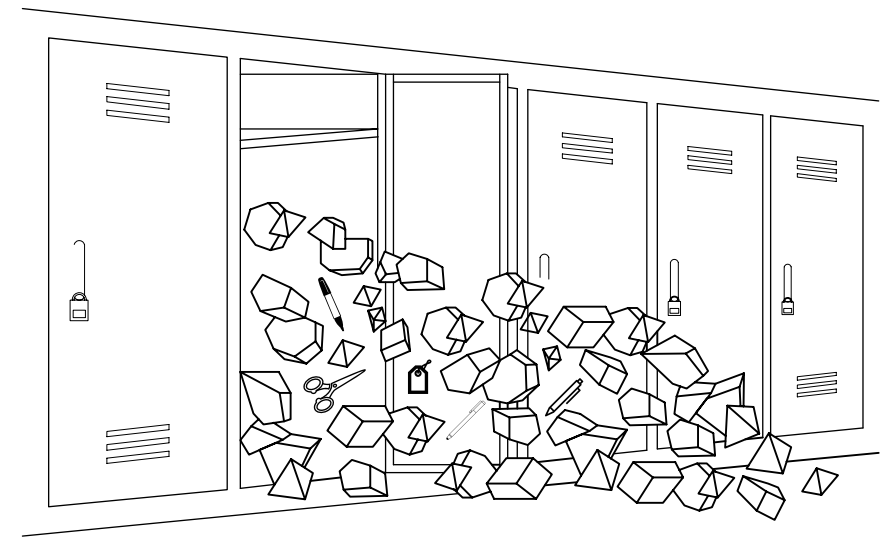
Fig.1.2 Problem Metaphor: The unused materials and the mess in almost every students' lockers.

idea generation/ Introduction

IDENTIFIED PROBLEMS & APPROACH

SECOND HAND CONSUMPTION

Social, Physical: Experience & Product

BRAND EXPERIENCE ERA

WebS

CUSTOMER EXPERIENCE ERA

ocial Media: Thoughts & Experiences

COLLABORATIVE ECONOMY ERA

Social, Mobile, Payment Systems:
Experience, Product & Service

cyc e

creative reuse
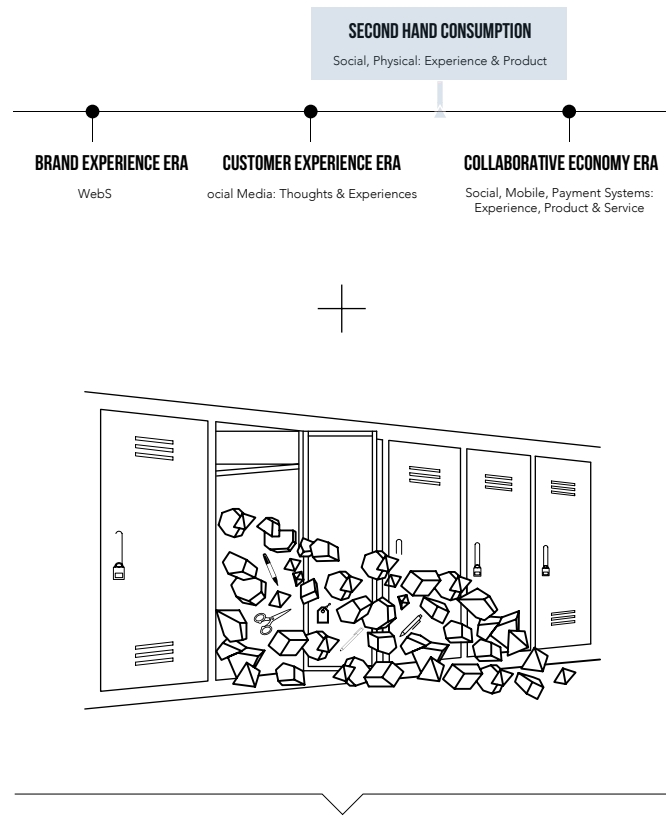
Fig.1.3 Approach

The necessary shift action to accomplish a solid change.

The excessive use and expensive cost of art supplies and course materials.

The new platfom to enhance and adapt second hand use in art supplies and course matierials.
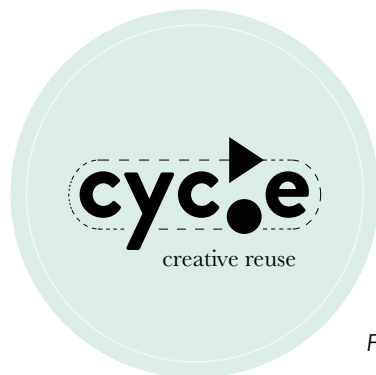
GOALS & MISSION

Contribution to product life cycle design & environmental sustainability:
The Cycle enhances product life optimisation & material life extension, therefore aiming to have resources minimisation as a result.

Contribution to social sustainability:
The socio-ethical sustainability development requires 'equity' described in two main aspects:
- Future generations should have the same degree of satisfaction for goods and products.
- Everyone should have same access to global natural sources. [2]

As well as **The Cycle** aims to create a community around sharing, it also enhances the accesibility of products to larger group of people; "one's trash is another mans treasure".

Contribution to economical sustainability:
The economical sustainable developtment aims to enhance promising economic models even they are currently in niche market value.
The Cycle also aims towards one of this niche market; 2nd hand consumption which has a core value as material life extension and product life optimisation which will enable resources minimisation.

Contribution to field:
Unfortunately, 'second hand shopping remains unstudied, even as it raises crucial issues including repeated circulations of used objects among consumers, which prolongs the objects' useful life and thus reduces conventional retails of a substantial proprotion of their revenues.' [3]

Social	Personal satisfaction Personal integrity Personal awareness	⬆
Economical	The budget The actual currency The time spent	⬇
Environmental	The product life optimisation Material life extension Resources minimisation	⬆

Fig.1.4 Motivation Chart: The Cycle

Used products
Product features
Product symbolism

Appropriation

Self concept
Ideal-self
Social-self

Self of Others
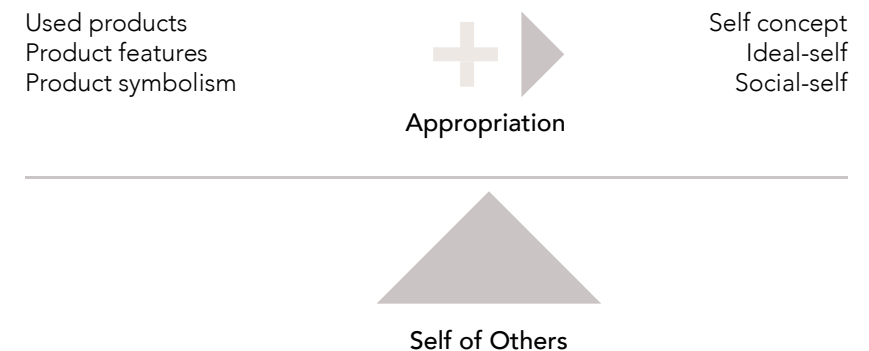
Fig.1.5 Conceptual Framework: Negative And Positive Tranfers Between Used Clothing And Consumer Self Concept

2-Vezzoli, Carlo. System Design for Sustainability. Santarcangelo Di Romagna (Rimini): Maggioli, 2010. Print.
3- Guiot, Denis, and Dominique Roux. A Second-hand Shoppers' Motivation Scale: Antecedents, Consequences, and Implications for Retailers. Vol. 86. N.p.: Journal of Retailing, 2010. 383-99.

idea generation/ Introduction

BRAINSTORMING ON 2ND HAND IN GENERAL

BRAINSTORMING ON MOTIVATIONS FOR 2ND HAND SHOPPING
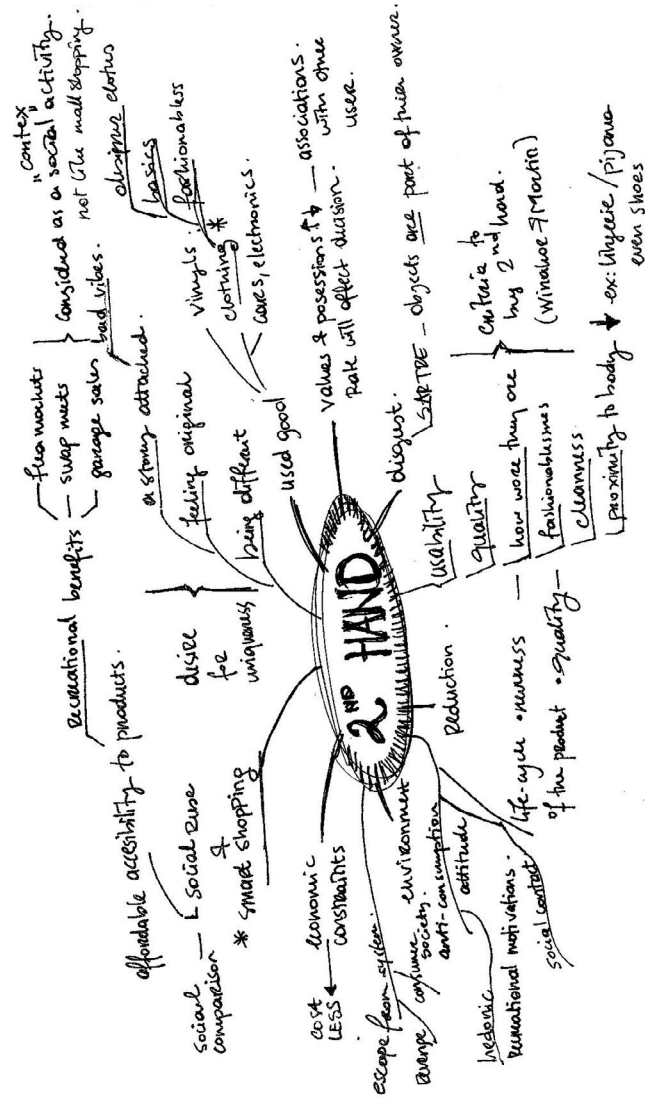
Fig.1.6 Brainstorming on the notion of second hand consumption.
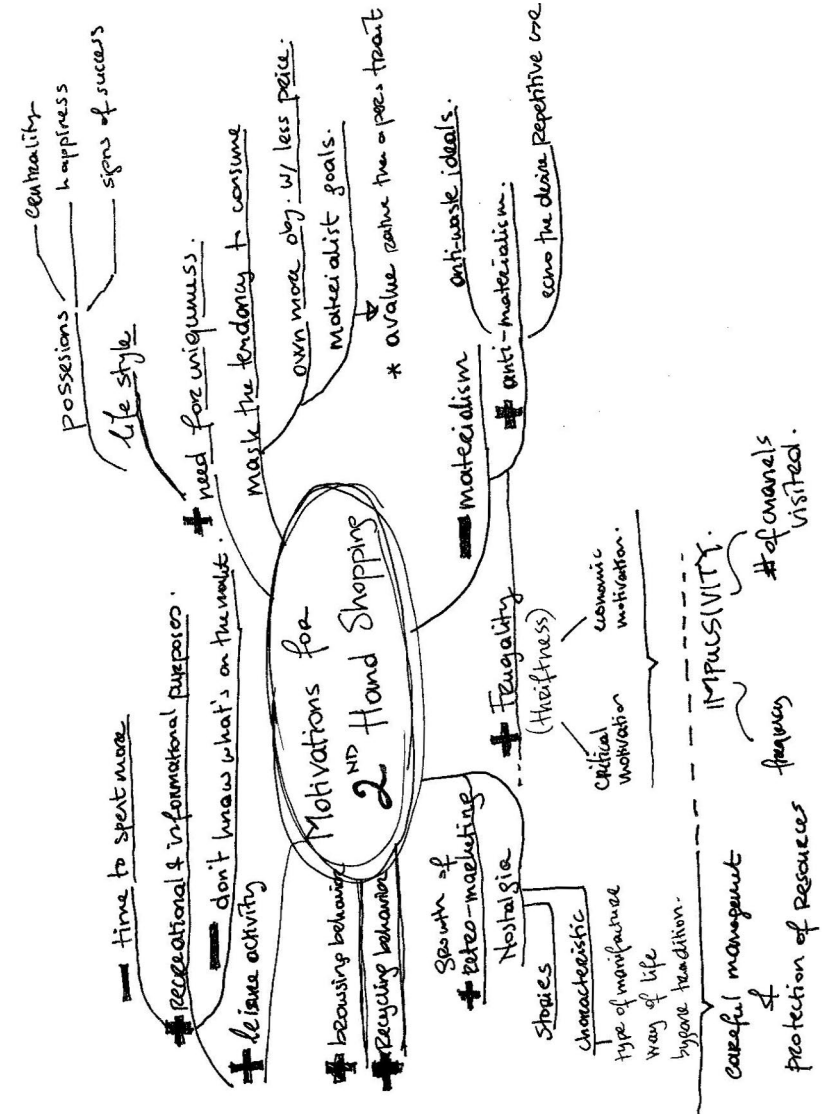
Fig.1.7 Brainstorming on the motivations for second hand shopping.
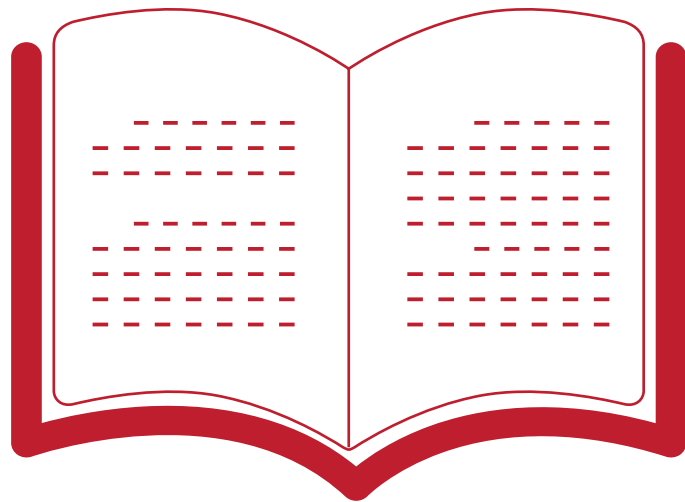
B

LITERATURE RESEARCH

2- A Rough History of Consumption
3- Market Forces Which Drives The Collaborative Economy
4- Second-Hand Consumption
5- Second Hand Consumption As A Shifting Phase
6- 2nd Hand Consumption In Art Supplies and Modeling Materials

The literature research is based on academic articles, books, and published statistics from research firms for data or insight into the problem at hand. These information is conducted to the main topic and a common examination is made according to similar approaches in between collaborative consumption and second hand.

2. A ROUGH HISTORY OF CONSUMPTION

Consumption is the action of using up of goods and services.[4]

It is a curiosity for the sociologists that the history of consumption is being systematically ignored, both within consumer research the historical community, for so long. The history of consumption has no recorded and systematized history and no community of scholars. The academic world refers that this field as "preparadigmatic" which means an idea or action emerged before the notion of creation of stereotypes and patterns on a certain field.[5]

The action of consuming starts with the beginning of life. We get born and start consuming air and water for survival. It dates back to the ancient times, as the human kind has to consume to overcome the needs eating, drinking and having a shelter. At the beginning of life we consume our basic needs from nature. To hunt, we made our first weapon from stone so the stone consumption had started, we hunted animals to eat so the meat consumption had started, and so on. In early ages, human kind tended to consume what they need, however as human desire has no ends, when we started to own more than we need, travel and explore the globe the desire to own more and more emerged. The human kind started to trade and exchanged the goods and serviced which lead the society to consume some more items other than our basic needs.

After some time the goods that we obtain, direct from nature did not satisfy us and we started to produce much more goods other than basic needs and forms. This notion is highly influenced by the industrial revolution where the machinery was involved in the system where the production became much more faster than before. This is the start of classical economics, consumers are assumed to be rational and to allocate expenditures in such a way to maximize total satisfaction from all purchases. Incomes and prices are seen as consumption's two major determinants. At the beginning the market forces more monolithic where almost every producer could sell all of their goods but the notion of capitalism emerged, where people started to care about the quantity of their belongings rather than the quality of them, competition in

the market was born to enable people to buy and choose goods and services at different rates and values. The competition on price and quality was a big battle and became the main reason of existence and survival of a producer. The rules of the market has changed that, in order to survive as a producer you must produce cheap, on time with an acceptable quality, which had driven to the solution of mass production. Mass production triggered the extra consumption and we became a consumption society. Human desire and ambition has no end, so instead of having one swimming suit we own five and never use some of them, as we are forced to think that they are not fancy, out of fashion. Trends reshape the needs of human kind, where the consumption society phenomenon had emerged.

This phenomenon seems like an endless chain; the more production leads to more consumption, and the other way around; still the market forces us to buy much more than we need. However the new emerging model is directing us to share what we have with the society. As there is a wide range of brands in the market the appeal has became more important thus the companies started to invest on brand experience and customer relations to they studied their target audience and became more prominent than other competitors.

To conclude, as stated above by McCracken, this topic is highly broad and never had been studied so intense in a global manner. Usually the previous studies always focus on a certain country and a certain good or a service. As the globalization getting wider and wider, the economic models are also changing. The global issues started to effect local economies in a larger scale than before. The economies and consumption patterns started to resemble throughout the world where the access to information is easier and the flow of information is faster than before. The 21st century has spawned many new ideas and movements, the notion of consumerism and the consumer movement being one. If it is considered in a bigger frame, as world economy, the roots go back to ancient times where the goods were produced and consumed on an individual and customized level with a major difference; involvement of technology.

4-"Definition of Consumption in English:." Consumption: Definition of Consumption in Oxford Dictionary (British & World English). N.p., n.d. Web. 08 Apr. 2014.
5- Grant Mc Cracken, The History of Consumption: A Literature Review and Consumer Guide Journal of Consumer Policy 10 (1987) 139-- 166. © 1987 by D. Reidel Publishing Company.

a rough history of consumption

2.1 THE ROUGH TIMELINE

If we zoom out and take a broad look to the timeline of consumption there are major turn points which have effected all the world:

10,000 B.C.

Consumption According
to Basic Needs

Before 17th Century

Simple Machinery &
Craftsmanship

1760-1820

Industrial Revolution
& Machine Power

1913

Assembly Lines
& Mass Production

Late Phases - 21st Century

1960s

Collaborative Economy Era

Customer Experience Era

Brand Experience Era

Rise of Capitalism
& Multiple Choice

Fig.2.1 Rough timeline of history of consumption.
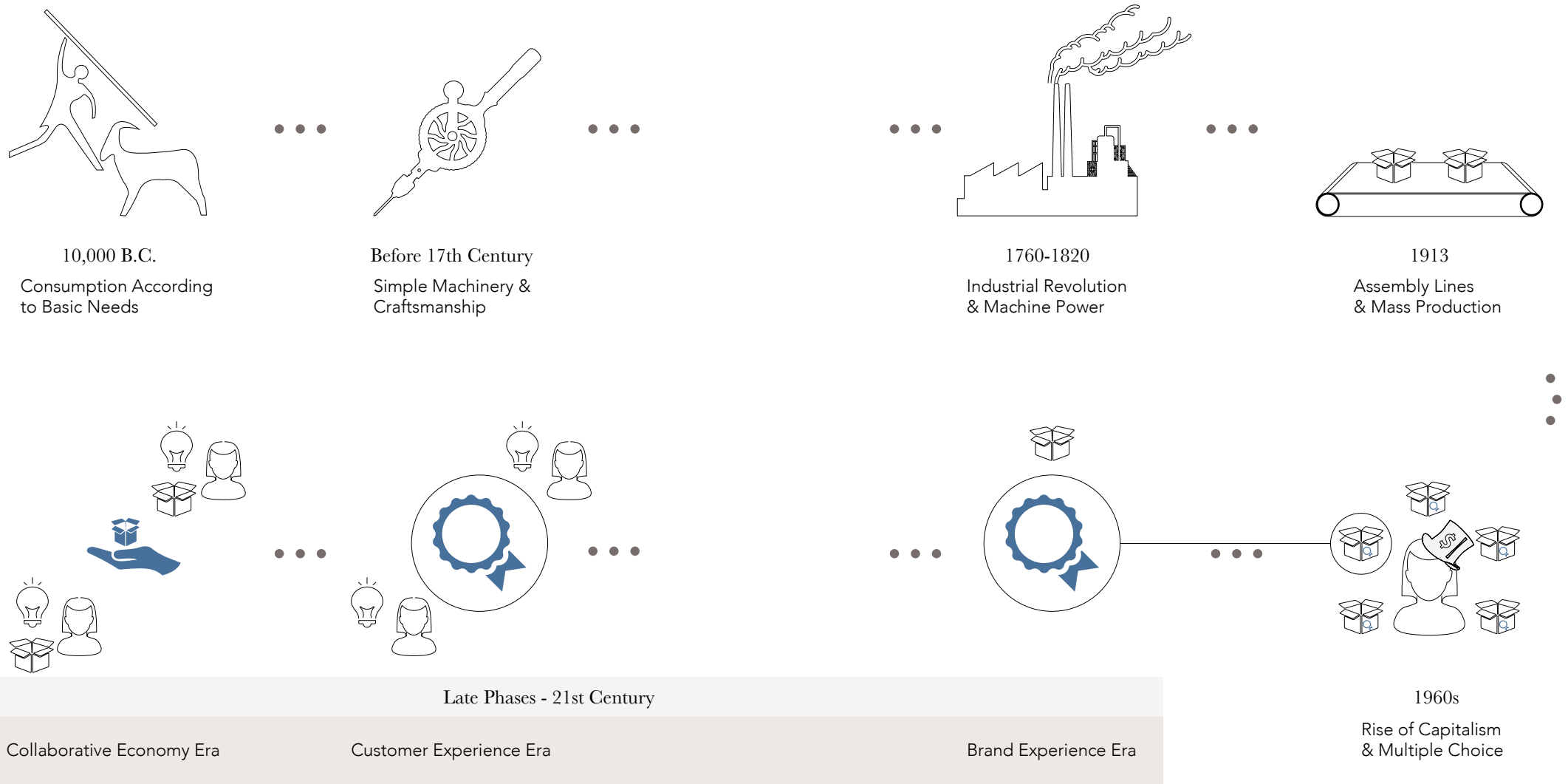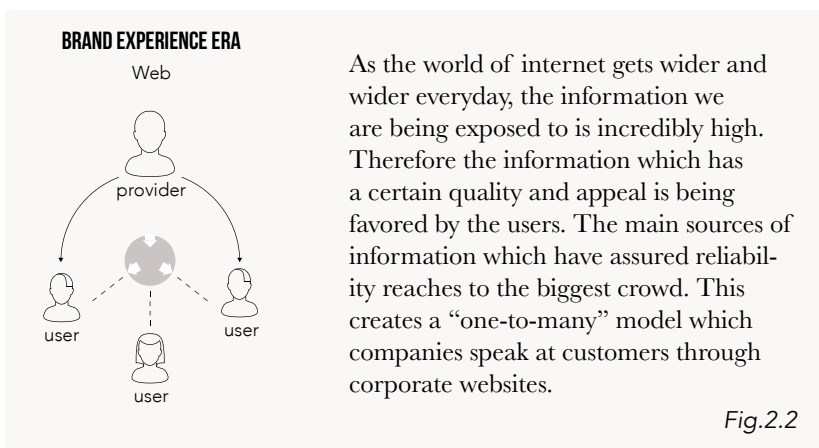
history of consumption

2.2 LATE PHASES

We are witnessing early indicators of an important shift. Hundreds of Startups like Airbnb, where people share their houses, have emerged to enable people to share goods and services. These start ups requires a low starting budget and can profit way more than expected if it creates a boom. Therefore high amount of venture capital funding are accelerating this trend.

After getting adapted to share personal lives, opinions, activities on social media, the users became more likely to adapt sharing their goods and services too. In this evolution, companies risk being disrupted, as peer-to-peer trade is favored in many models. The evolution of these market relationships can be divided into three micro eras, which are driven by new technologies:
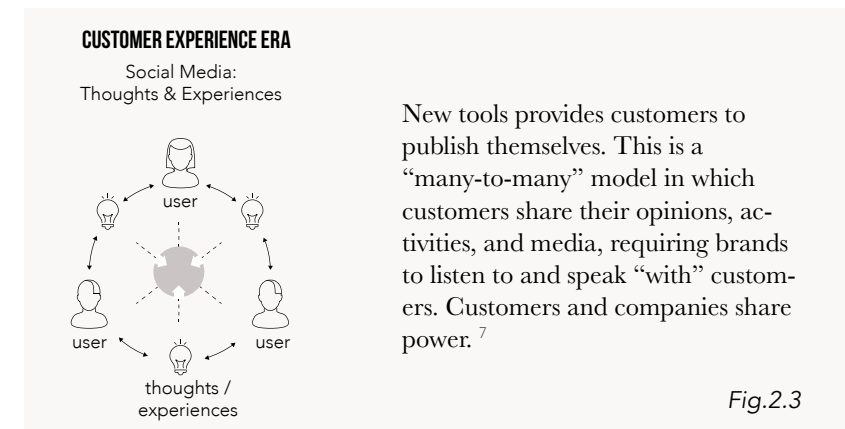
2.2.1 BRAND EXPERIENCE ERA

As the information becomes too much accessible, in some areas the importance of know-how has diminished, therefore it has become no longer an advantage of selling and owning the information from the sellers point of view. The economists say this motive will bring the perfect equilibrium to supply and demand chain.[6]

BRAND EXPERIENCE ERA

Web

provider

user

user

user

As the world of internet gets wider and wider everyday, the information we are being exposed to is incredibly high. Therefore the information which has a certain quality and appeal is being favored by the users. The main sources of information which have assured reliability reaches to the biggest crowd. This creates a "one-to-many" model which companies speak at customers through corporate websites.

Fig.2.2

6- Kathman,Jerry. Brand Identity Development in the New Economy. Design Issues, Winter 2002, Vol. 18, No. 1 , Pages 24-35

2.2.2 CUSTOMER EXPERIENCE ERA

After having access to too many brands, goods, services and information, companies had to point out themselves in an innovative way. Focusing on individual customer and make their service personalized enable them to communicate better with their target market in a meaningful way.

CUSTOMER EXPERIENCE ERA

Social Media: Thoughts & Experiences

user

user   user

thoughts / experiences

New tools provides customers to publish themselves. This is a "many-to-many" model in which customers share their opinions, activities, and media, requiring brands to listen to and speak "with" customers. Customers and companies share power. [7]

Fig.2.3

The e-commerce and the traditional companies, which has online stores, focuses on better and personalized customer service. They refer directly to the Individual customer in the appeal tone, create opportunities for customization and try to provide added value to make the online experience more and more unique and preferable. They treat customers as individuals instead of segments. By the help of technology the 'mass customization' has become possible. To go forward in the market competition they are trying to go far beyond a customer's current expectations and seeking for having a long-term customer loyalty. [8]

Traditional retailers need to rethink their current strategies. They must refocus on the customer. They have an opportunity to leverage their strengths, utilize their physical presence and create a totally new shopping experience. Some retailers recognize this and have responded. Several diverse strategies are emerging. In the era of fast technology and personalized communication, the traditional retailers are reaching a point of danger to become extinct if they do not respond to the new demands of customers which are not limited with products only anymore.

7- Jeremiah, Owyang, Tran Christine, and Silva Chris. A Market Definition: The Collaborative Economy. June 4: Altimeter, 2013. Altimeter Research Theme: Digital Economies. Web. 21 Nov. 2013.
8- Walsh, John, and Sue Godfrey. "The Internet: A New Era in Customer Service." European Management Journal 18.1 (2000): 85-92. Print.

2.2.3 COLLABORATIVE ECONOMY ERA

"Thanks to the social web, you can now share anything with anyone anywhere in the world. is this the end of hyperconsumption?" Danielle Sacks.[9]

The Collaborative Economy is a socio-economic system built around the sharing of human and physical assets. It includes the shared creation, production, distribution, trade and consumption of goods and services by different people and organisations. [10]

COLLABORATIVE ECONOMY ERA

Social, Mobile, Payment Systems:
Experience, Product & Service

products — user — thoughts / experiences

user — user

services

Fueled by social, mobile, and payment systems, customers are now empowered to share goods and services. Companies are disrupted as consumers buy from each other over traditional institutions. Power shifts to the consumer.

Fig.2.5

An entire economy is emerging around the exchange of goods and services between individuals instead of from business to consumer. This is redefining market relationships between traditional sellers and buyers, expanding models of transaction and consumption, and impacting business models and ecosystems.

An Himalayan village, where collaborative production and consumption is the main economical driver in a natural way.
Tengboche, Himalayas - Nepal. Photo by Murat Selam.

9- Sacks, Danielle. "The Sharing Economy | Fast Company | Business + Innovation." Fast Company. N.p., n.d. Web. 08 Apr. 2014.
10- "Sharing Economy." Wikipedia. Wikimedia Foundation, 04 Aug. 2014. Web. 08 Apr.

Fig.2.4

3. MARKET FORCES WHICH DRIVES THE COLLABORATIVE ECONOMY

Sharing is a natural human behavior that families and communities have practiced since the dawn of civilization, and it still informs and influences many spheres of modern life - from co-operative enterprises and 'land share' schemes to open software development and social networking. [11]

In the modern era, **social, economical and technological drivers** make the collaborative economy preferable inevitably. These drivers will be examined thoroughly in this chapter.

3.1 SOCIAL DRIVERS

Increasing Population Density

The Collaborative Economy depends on the number of the people who can provide supply and demand for services. Especially in the big cities the increasing population density, enables more points of access to the shared supplies. Therefore collaboration becomes handy and preferable.

Drive For Sustainability

There is growing awareness about the environmental impact of our consumption habits. Reselling, renting, co-owning, or gifting maximizes usage and reduces the impact of physical goods that were once bought and discarded after limited use. The main aim is to keep materials and goods away from the landfills as long as possible and consume them till it is impossible. This attitude aims to overcome the problem over-consumption and contributes to waste management.

Creating A Social Community

A latent trend and desire to connect with people and communities is favored by a lot of people. After massive impact of social media, the specialists announced that new trend of 2014 will be the community based social networks during the SXSW Interactive panels. Antonin Leonard, founder of sharing economy nonprofit OuiShare, claimed that: "There is a cultural shift taking place, people want to rely on people, not just companies."[12] Individuals can now bypass faceless brands as they transact with each other.

3.2 ECONOMICAL DRIVERS

Opportunity To Monetize Excessive Possessions

An individual can now monetize and share his/her excessive and idle possessions. In the iconic TED talk, Rachel Botsman, author of What's Mine Is Yours: The Rise of Collaborative Consumption, reported that the average total use of an electric drill is a mere 12 minutes.[13] David Hornik of August Capital summed it up in a nutshell: "Anytime there's a resource that stays idle for much of its lifetime, there's an opportunity to take advantage of it."[14]

Increase In Financial Flexibility Of Individuals

As it has become possible to create an income out of personal idle possessions, individuals gained new and flexible way of earning money. Peer-to-peer trade created a surprising effect on people's job decisions. Sites like Etsy, where an individual start to run their own virtual store and sell their real products peer-to-peer, remove the barriers for aspiring entrepreneurs. Vivian Wang of Sasson Capital shared the following insight: "We have entered the new world of the perpetual freelancer and micro-entrepreneur. Collaborative Economy companies are building new tools and platforms to help them lead the way."[12]

Access Over Ownership

There is a mutual benefit in the Collaborative Economy model both for supplier and consumer. Individuals who can't afford luxury goods can now rent them; businesses can hire on demand workers or rent on-demand space. An Airbnb-sponsored study found that nearly 6 out of 10 adults agree that "being able to borrow or rent someone's property or belongings online is a great way to save money."[12] We're moving from a world where ownership was something we aspired to, to a world where access to goods, services, and talent triumphs ownership. This trend will likely increase as a generation of young adults reduces debt amid the current recession. Also, this trend will lead the new generation to be more enterprising and sociable to create new ways of earning money.

11- "STWR - Share The World's Resources." Financing the Global Sharing Economy. N.p., n.d. Web. 08 Apr. 2014.
12- Jeremiah, Owyang, Tran Christine, and Silva Chris. A Market Definition: The Collaborative Economy. June 4: Altimeter, 2013. Altimeter Research Theme: Digital Economies. Web. 21 Nov. 2013.

13- Botsman, Rachel, and Roo Rogers. What's Mine Is Yours: The Rise of Collaborative Consumption. New York: Harper Business, 2010. Print.
14- Gansky, Lisa. The Mesh: Why the Future of Business Is Sharing. New York, NY: Portfolio Penguin, 2010. Print.

Fig.3.1

3.3 TECHNOLOGICAL DRIVERS

Social Networking

Social networking facilitates peer-to-peer transactions by matching up supply and demand that wasn't previously possible. In another speech of Rachel Boltsman on TED talks, she claims that the currency of the new economy is trust. While experiencing peer-to-peer services, the trust rate of the peers (being on time, being reliable etc.) becomes the decision factor to assign each other.[13] Sites like Airbnb also use Facebook's open graph so that users can identify ratings and rankings from their Facebook friends. These features help build trust between buyers and sellers.

Mobile Devices and Platforms

Many startups in the Collaborative Economy are mobile-driven. One of the main reason behind is to create a business online for mobile devices and platforms almost cost anything tangible. The regulations and the bureaucracy is way much easier than to start a physical business. Also mobile devices and platforms enables users and companies to get connected at all times, which enables location based and on time marketing.

Payment Systems

For the online based start ups like e-commerce services like Paypal are highly preferable for online transactions. Yet there are also examples of gifting or swapping that do not require monetary exchange but depend instead on digital reputation. In the future, it is expected to have new forms of value to include nontraditional currencies, like Bitcoin; or new forms of measurement that account for resale or multiple users in the total cost of ownership.

market forces which drives the collaborative economy

3.4 VALUE CHAIN

In the Collaborative Economy, companies must evolve their business models to avoid becoming disintermediated by customers who connect with each other.

The framework of Altimeter group 'The Collaborative Economy Value Chain', illustrates how companies can rethink their business models, becoming a Company-as-a-Service, Motivating a Marketplace, or Providing a Platform. These three models represent increases in maturity requiring greater investment that results in greater benefit at each level.

The forward-looking company employs one model; the most advanced companies employ all three, with the corporation at the center.
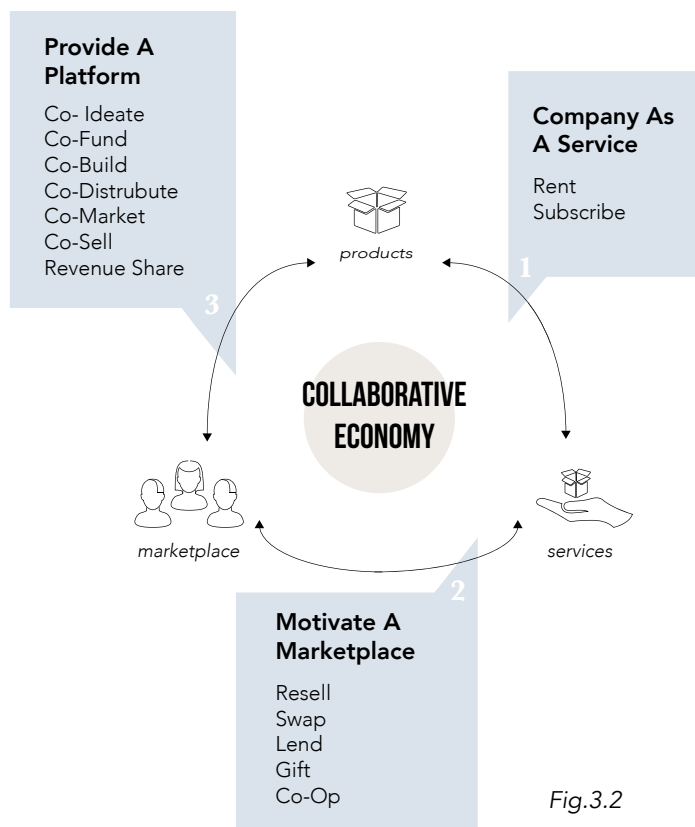
Provide A Platform

Co- Ideate
Co-Fund
Co-Build
Co-Distrubute
Co-Market
Co-Sell
Revenue Share

products

Company As A Service

Rent
Subscribe

COLLABORATIVE ECONOMY

marketplace

services

Motivate A Marketplace

Resell
Swap
Lend
Gift
Co-Op

Fig.3.2

Model 1: Evolve Business Model to a Company-as-a-Service:

Description: Rather than sell goods in the traditional sense, offer products or services to customers on demand or through a subscription model. Yet in the Collaborative Economy, new verticals will be disrupted as the market forces previously discussed accelerate this trend. All companies in all industries must evaluate a Company-as-a-Service model for their companies.

Benefits: Develop a long-term and repeat relationship with the customer, and get your products into the hands of new customers.

Transactions: Rent, Subscribe, Gift

Model 2: Connect P2P Buyers and Sellers by Motivating a Marketplace:

Description: Companies must now foster a community around the brand by enabling customers and partners to resell or co-purchase products, swap goods related to the brand, or even enable lending or gifting for no monetary exchange. This focus shifts to ecosystem relationships, past the point of the first sale. In most cases, the marketplace or community has existed as long as the brand, if not longer. As a result, companies must approach with caution into already existing communities.

Benefits: Rather than stand by the wayside, add new value to transactions between your customers then take a cut or upsell new opportunities.

Transactions: Resell, Co-Own, Swap, Lend, Gift

Model 3: Let The Users Build On A Provided Platform:

What is it?: Like software providers that tapped into an ecosystem of developers to build products on their software, brands must enable customers to build products and new services as partners, not just consumers.

Benefits: Tap into the crowd to improve all your business functions and products, while reducing costs and creating new market offerings.

Transactions: Co-Ideate, Co-Fund, Co-Build, Co-Distribute, Co-Market, Co-Sell, Co-Revenue Share.

12- Jeremiah, Owyang, Tran Christine, and Silva Chris. A Market Definition: The Collaborative Economy. June 4: Altimeter, 2013. Altimeter Research Theme: Digital Economies. Web. 21 Nov. 2013.

market forces which drives the collaborative economy

3.5 COLLABORATIVE IMPACT, NEW APPROACH IN CUSTOMER RELATIONSHIPS

The shift to the new economy, brings out new types of customers and customer segments.

"Companies risk being disintermediated as customers monetize their assets and compete directly." [12]

Crowds will act like companies.

Providing and consuming goods and services amongst each other. The model of "consume and throw away" will give way to "consume and collaborate." With new platforms and increasing consumer adoption, individuals will more easily find ways to monetize their goods or services and buy directly from one another at lower costs and, sometimes, more convenience. Crowds will also assert buying power over companies — for example, Carrotmob empowers "mobs" who demand sustainable products and then promise to patronize the company.

Customers will seek products that are more durable or maintain their value.

The resale value of a car will be extended to all segments of products as consumers seek to buy products that can be resold or shared easily in the Collaborative Economy. This will create an increase in demand for goods that are more durable, maintain their lifetime value, or are easily transferred from one owner to the next. Expect a new rating to emerge that helps customers measure the "Total Product Life Value."

"The customer experience will extend past the first purchase, as customers share their goods." [12]

Customer experience extends on re-usage market.

As products are passed across multiple owners, the brand experience extends. The "Total Product Life Value" will be rated and reviewed by collaborative consumers, potentially demanding brand attention to marketing and customer service after the first sale.

Customers trust each other more than brands.

Putting advocates center stage. Communities will emerge around corporations focused on re-usage of products and goods, led by key influencers who will be measured by their online social reach and reputation in their community transactions and knowledge. Wendy Lea of Get Satisfaction told us: "Reputation model matters, because business models will be built around reputation."

12- Jeremiah, Owyang, Tran Christine, and Silva Chris. A Market Definition: The Collaborative Economy. June 4: Altimeter, 2013. Altimeter Research Theme: Digital Economies. Web. 21 Nov. 2013.

market forces which drives the collaborative economy

3.6 CHANNELS OF MARKETING FOR COLLABORATIVE SERVICES

The Collaborative Economy targets mostly the Y-generation who is strongly attached to the sense of community and communication. On the below, some results of a market research done by Vision Critical and Crowd Companies are shown. After collecting data from online users, they are divided mainly into two parts as word of mouth and traditional marketing.

Word of Mouth	Traditional Marketing	Unknown
Someone told me about	**Google or other web search** 16%	**Can't recall** 16%
47%	**News Media** 8%	
	Online Ad 7%	**Other** 6%
Social network 13%	**Email** 5%	
	Print or TV ad 2%	
Blog 3%	**App Store** 2%	

Fig.3.3 How people discover sharing services.

The Collaborative Economy targets mostly the Y-generation who is strongly attached to the sense of community and communication. On the below, some results of a market research done by Vision Critical and Crowd Companies are shown. After collecting data from online users, they are divided mainly into two parts as word of mouth and traditional marketing.
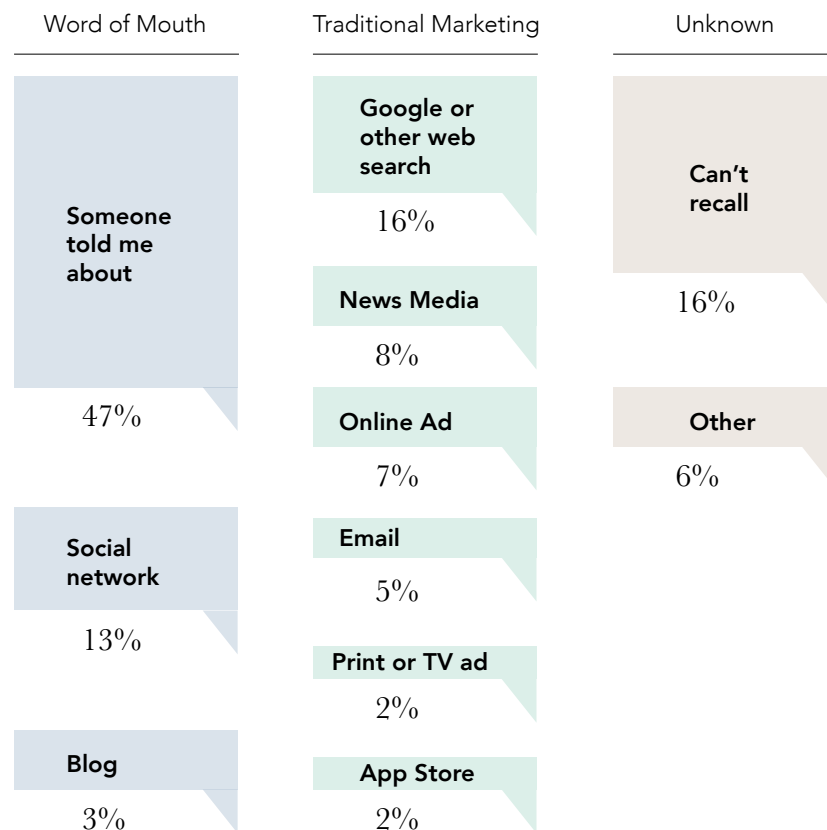
As seen in this research, the word of mouth has the biggest impact on advertising channels. Personal recommendations appear to be a significant driver, reflecting the role of word-of-mouth in how people discover sharing sites. This situation is highly dependent on the social network of the user, which is defining their 'search filters' unconsciously. The information flow through a social network can be direct or indirect. Nowadays when it is said "someone told me about it" it is hard to differentiate whether it is an verbal communication or not. The discovery can also be made by just witnessing a friend using that service via online channels or physically. The comments about the service can be already written on if it is shared with a specific user or publicly.

The traditional channels still working but even the sum of all these channels have a lower percentage than 'someone told me about it' comment from word of mouth. Also these channels have a cost for the supplier. Therefore the service supplier should be really careful and pick the best medium according to their offerings to prevent spending budget for useless resources.

In the era of information and technology it is not surprising that some users even can not recall how they got to know the service. We are being exposed to so many information flow that sometimes we cannot even recall the source.
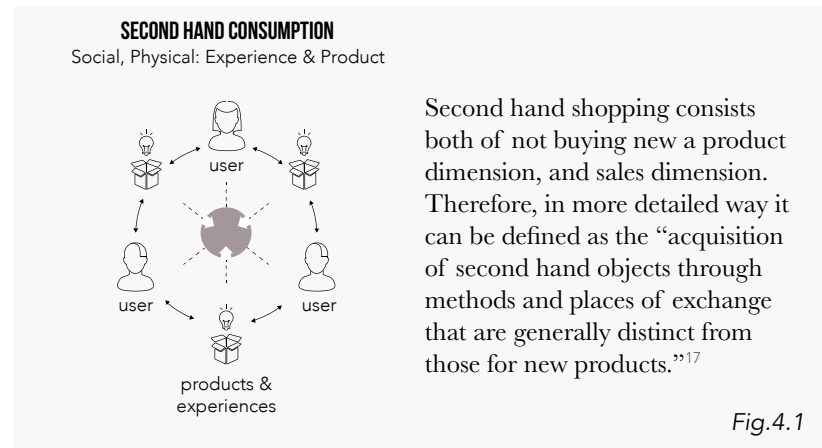
As a conclusion, the discovery of a new collaborative service has the biggest resource on word of mouth channel. The early adaptors of these kind of services are living highly connected and care about the actions of their community trends. Therefore the compnanies should invest on finding the right trendsetting people or platforms to promote their services.

15- Jeremiah, Owyang, Alexandra Samuel, And Andrew Grenville. "Sharing Is The New Buying: How To Win In The Collaborative Economy."Vision Critical & Crowd Companies, N.d. Web. 09 Apr. 2014.

4. SECOND-HAND CONSUMPTION

4.1 BRIEF DEFINITION OF SECOND-HAND CONSUMPTION

The second hand market can be briefly defined as to trade used goods at reduced prices. The second hand consumption is a complex socioeconomic institution to which consumer researchers have directed surprisingly little attention. Although many social scientists have experienced a fascination with such markets through direct participation, few have reflected systematically on the internal dynamics, the retail ecology, or the cultural significance of the flea market. Yet, modern consumer society is "symbolized at least as much by the mountains of rubbish, the garage and jumble sales, the columns of advertisements of second-hand goods for sale and the second-hand car lots, as it is by the ubiquitous propaganda on behalf of new goods." [16]

The second hand goods mostly found on garage sales, flea markets, thrift shops, second hand stores and thanks to the rise of peer-to-peer trade and share platforms, online sites like eBay, kijiji etc.

SECOND HAND CONSUMPTION
Social, Physical: Experience & Product

user

user   user

products &
experiences

Second hand shopping consists both of not buying new a product dimension, and sales dimension. Therefore, in more detailed way it can be defined as the "acquisition of second hand objects through methods and places of exchange that are generally distinct from those for new products."[17]

Fig.4.1

4.2 CURRENT SITUATION OF SECOND-HAND CONSUMPTION IN THE MARKET

Second hand uses or alternative exchange systems became one of the premise fields discussed within the recent literature concerning collaborative economy, as a result the service design field. In addition to this, according to Solomon, the number of used-merchandise retail establishments has grown at about ten times the rate of other stores. [18]

Prior studies of second-hand shopping cite two reasons for the growth of this market. A recreational explanation instead focuses on the characteristics of certain channels as the basis for their appeal. For example, second-hand markets provide various and unpredictable offerings, visual stimulation and excitement due to the plethora of goods, the urge to hunt for bargains, and feelings of affiliation and social interaction.

The new generation consumers started to be more conscious about waste management and saving the resources. Public policies of many countries are informing the communities to reduce the waste amount and contribute recycling. Marketers are being challenged to transform the by products of industrial production into viable products. Consequently, the process sustaining the lateral cycling of goods that characterizes second hand markets should be the focus of enlightened self and public interest.

Nowadays, second hand consumption patterns are being observed under the collaboration consumption economic model. Where the colloborative model is being introduced to the society as something pioneer. If the existing motivations already adapted by the society for second hand consumption are examined in a deeper meaning, the way to establish and enlighten collaborative consumption will be much more easier and effective.
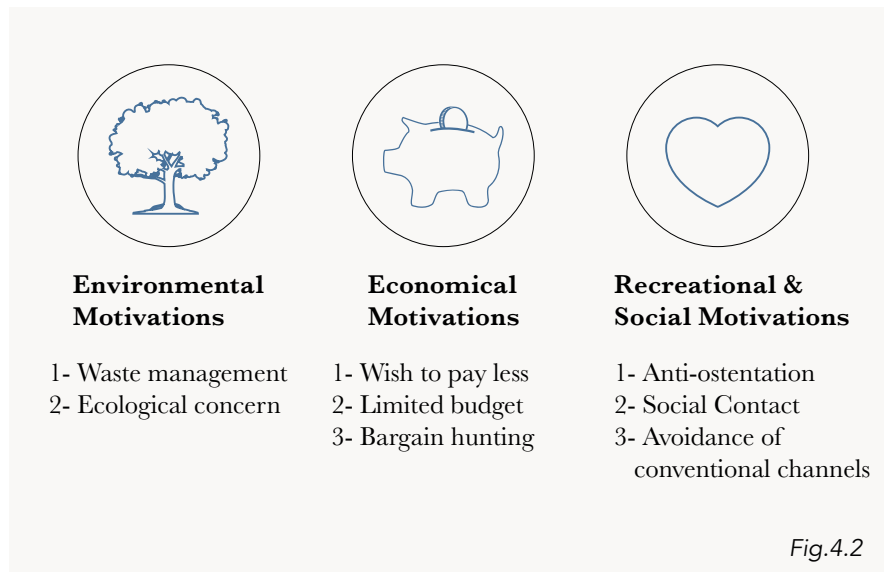
16- John, F., and Jr. Sherry. "Sociocultural Analysis of a Midwestern American Flea Market." JSTOR. Vol. 17, No. 1, June 1990. Web. 09 Apr. 2014. Web.
17- Roux, Dominique, and Michaël Korchia. "Am I What I Wear? An Exploratory Study of Symbolic Meanings Associated with Secondhand Clothing." Advances in Consumer Research 33/3 (2006): n. pag. Print.

18- Solomon, Michael R. (1983), The Role of Products as Social Stimuli: A Symbolic Interactionism Perspective, Journal of Consumer Research, 10 (December), 319-329.

motivations of 2nd hand consumption

4.3 WHAT ARE THE MOTIVATIONS OF BUYING 2ND HAND?

The attention given to collaborative economy, thus interest in used-product buying behaviors, arose from concerns about the environment, economic constraints resulting in the reduction of the household consumption costs and the psychological aspects related with the experiential nature of exchange venues like swap meets, flea markets and garage sales.[19]
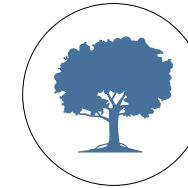
In general, prior studies provide observations about particular features and advantages of the channels rather than identifying any precise motivations for this form of shopping. In the overall look the economical motivation seems the prior need and urge to shop second hand. Nevertheless, prior studies provide some observations that, second-hand shoppers' motives are not exclusively financial. Direct personal interest, environmental awareness, social and recreational motivations are interwoven.

The motivations of buying 2nd hand can be classified in 3 dimensions. These dimensions will be explored in depth by the exploring some sub-topics as following:

Environmental Motivations	Economical Motivations	Recreational & Social Motivations
1- Waste management	1- Wish to pay less	1- Anti-ostentation
2- Ecological concern	2- Limited budget	2- Social Contact
	3- Bargain hunting	3- Avoidance of conventional channels

Fig.4.2

4.3.1 ENVIRONMENTAL MOTIVATIONS

In the world of second hand shoppers, environmental motivations started gain more importance nowadays. Before these motivations were a side driving force as the public concern was not implied in this way.

However, now, as the trend now is 'being ecological' they have become more prominent. Increase in social consciousness regarding consuming less as a response to the materialist culture that focuses on superficial meanings increase the need for recycling and second-hand uses and services meeting these purposes. These motivations creates a huge positive impact which originates from an individual action resulting in a global scale.

1. Waste Managment

Reusing functional products, reducing the depletion of natural resources, and avoiding the unnecessary possession of products, which match the claims of practitioners of voluntary simplicity as a life style. These behaviors result in reducing waste thus creating worthwhile environmental impact.

According to the market research of Roux and Guiot, the respondents claimed that, they reveal a sense of accomplishment linked to practices of recovery and resistance to conventional market channels, because they successfully reject incentives to consume.

2. Ecological Concerns

Ecological concerns are at the top of the motivations related to recycling and second-hand uses that are mainly developed as a response to global warming and resistance behaviors against the consumer economies.

Recycling and extending product life cycle (see Chapter 4.4) are gaining more importance day by day. The consumers are being more aware of how to use goods in a more functional way, repair and modify them if needed rather than just keeping them.

19- Roux, Dominique, and Guiot, Denis. "Measuring Second-hand Shopping Motives, Antecedents and Consequences." Recherche Et Applications En Marketing 23.4 (2008): 65-91. Web.

motivations of 2nd hand consumption

4.3.2 ECONOMICAL MOTIVATIONS

Economic constraints also enforce the use of second hand materials since it brings flexibility to the market and economic benefits to the user.

According to Roux and Guiot, second hand shopping seems to ease the budget allocation pressure on shoppers by enabling them to satisfy their primary needs without depriving them of less essential acquisitions.*

1. Wish To Pay Less

Consumers prefer used goods due to the fact that they wish to pay less for some certain products. Especially if the product if not something personal, or has a high market value most of the consumers prefer second hand. Second hand cars and designer clothes can be examples for this motivation. They can also appear to be basic products but not essential ones, like a drill, the consumer prefers to buy second hand.

2. Limited Budget

If the income level of the consumer is low or the budget allocation arranged by the consumer has a low margin for the desired product, second hand shopping becomes the best option. It makes the products on the market accessible for more people and decreases stress caused by budget restrictions.

3. Bargain Hunting

If a product found in a second hand market with a high value and a low price, it stimulates the consumer to have it by the thought of that could be useful one day. It feels like an opportunity and tempting to own such objects for consumers. This motivation can apply for both luxury and basic products depending on the purchasin power of the consumer. These kind of consumers are referred as smart shoppers.[17]

4.3.3 SOCIAL & RECREATIONAL MOTIVATIONS
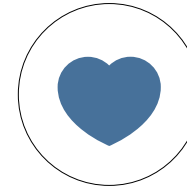
Consumers involved in such resistance create new selves that appear to be more "socially conscious" than merely preoccupied with appearance.

Second hand shopping is also considered as a recreational activity. Products which has a story behind, market places created as festive areas, online offers with really cheap prices made this action much more than satisfying a need for a product. Consumers tend to wander around in the second han markets even if they are not willing to buy anything.

1- Anti-Ostentation

According to Roux and Guoit research, second hand shoppers tend to care more about the orignality and/or the function of goods. This motivation involves a conscious, deliberate rejection of everything associated with fashionable or mass consumption, coupled with a tendency to find value in what other people disparage. Therefore the consumers prefer second hand products as a sign of social preference and a life style.

2- Social Contact

Second hand market areas started to become like a meeting point of people around a common interest. Especially some divisions like a second hand clothes shop, car or a thrift shop makes people gather around their taste and create a social network. Also second hand markets still have the old-school taste which enables buyer-seller communication and makes the experience more unique.

3- Avoidance Of Conventional Channels

The idea of a possible escape from the classic market system provides respondents with a sense of consumer sovereignty. The notion of avoiding con- ventional channels, which recalls concept of smart shopping,[20] expresses the desire to take intelligent advantage of products that other people no longer want.

17- Roux, Dominique, and Michaël Korchia. "Am I What I Wear? An Exploratory Study of Symbolic Meanings Associated with Secondhand Clothing." Advances in Consumer Research 33/3 (2006): Print.

20- Mano, Haim and Michael T. Elliott (1997), "Smart Shopping: The Origins and Consequences of Price Savings," In Advances in Consumer Research, vol. 24, Brucks M. and MacInnis D. eds. Provo, UT: Association for Consumer Research, 504–10.

Fig.5.1

5 SECOND HAND CONSUMPTION AS A SHIFTING PHASE TO COLLABORATIVE CONSUMPTION

Collaborative consumption is a fairly new concept to the market. According to the market report of Crowd Companies, 61% of the United States population is not considered as sharers. The attendees were asked whether they used any sharing online platform or app in past 12 months in 2012. Where as, according to the Goodwill Inc.'s annual report on 2012 more than 70% of the US population had a second hand shopping experience. From this point it can be easily understood that second hand shopping is a behavior that is already well accepted from the society. However the sharing behavior is not so different from re-using, it is still soon to talk about its social acceptability.

For the collaborative consumption schemes, it is a way to adopt a model already existing as second hand and create a platform for participation of both old school and new generation consumers. Giving them a fresh look but a known familiar feeling will enhance the user rates of such services.

The sharing economy is gaining attraction due to the new economic needs, social trends and technological drivers. It is a fact that it will never be the only dominant ruler in the market as people will always have the desire to own possessions and assets due to personal interest, hygienic concerns, comfort and luxury reasons. However, the new era will cause new approaches and new constitutions and platforms offering 'own and share' services and this attitude will direct towards 'share only' assets to grow and prosper the economy.

The overlap between the economical and social benefits of collaborative and second hand consumption patters are proven by the drive of satisfaction derived from the pride in being able to buy or share the items at a high value at a very low price.

The companies should focus on hos they can improve their offers to match with the new customer needs who are willing to have asset-light life style. The companies should try to make their base solid and steady considering the both the need of the customer and the economical success of their own.

2nd hand consumption

5.1 THE COMMON POINTS BETWEEN SECOND HAND AND COLLABORATIVE CONSMUPTION

As examined in the previous chapters 3 and 4, collaborative and second hand consumption models have many points in common. These common points especially meet in the main topics of sustainability as environmental, economical and social circumstances.

In the environmental aspect they both meet at regulating waste management and creating a positive impact on environment. The main aim is to decrease the amount of the waste ending up in the landfills to decrease the enegry spent on the by-processes for recycling and production.

Economically they both serve for the profit of the consumers. They can both spend less money on goods and even monetize their abandoned or obsolote ones. [21]

Socially collaborative services mostly depend on online social networks. The online communities define new ways of junctions around common needs. The latent researches count second hand consumption as a part of collaborative consumption in their systematizations. This is right up to a certain point but second hand consumption has a lot more social and recreational motivations which are already adopted by societies. These should be analyzed in depth to create better offerings and experiences for collaborative services.

In the second hand consumption model, the companies buy from and sell to customer to control quality and customer experience. In the collaborative model this can also be peer to peer where the companies will connect the buyers and seller and provide a reliable payment method. Thus these actions has similar behaviors in common about the notion of sharing, being sustainable and saving money.

5.2 SECOND HAND, PRODUCT LIFE CYCLE & COLLABORATIVE CONSUMPTION

Product life cycle has the stages of material production, transportation, assembly, use, maintenance, recycling and repeat.

According to Vezzoli an Manzini product life cycle design is defined as: "while considering all requirements, aims at minimizing the environmental impact of the whole of the life cycle phases in relation to the functional unit."[22]

Adopting second hand and collaborative consumption can extend patterns the product life cycle in the use and maintenance stages where it will create less amount of waste to dispose and recycle which will result in minimizing all the energy-consuming stages.
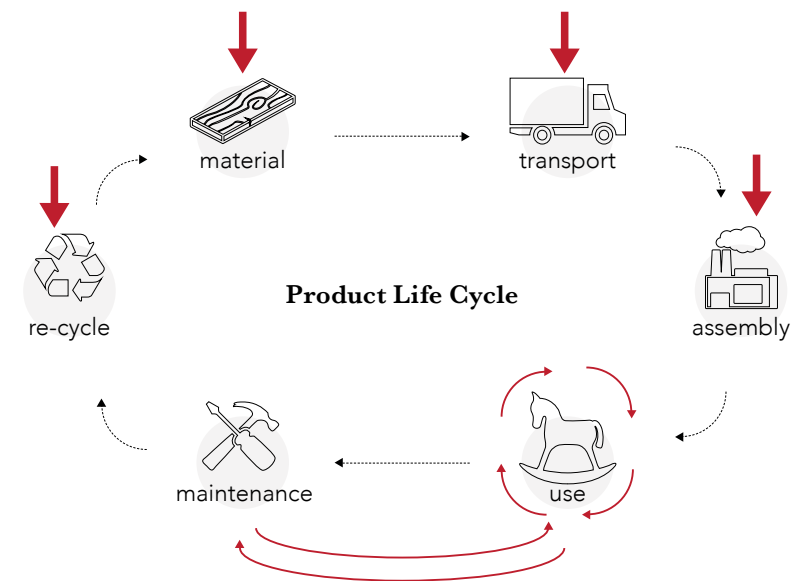

Fig.5.2 Adapting second hand consumption attitide to product life cycle chart

The energy and human resources left out here can be used in collaborative services in a much more sustainable way.

21- Reinhart, James. "Why The Success Of 'Sharing Economy' Startups Hinges On Who Owns The Inventory." Business Insider. Business Insider, Inc, 06 Feb. 2014. Web. 10 Apr. 2014.

22- Vezzoli, Carlo. System Design for Sustainability. Santarcangelo Di Romagna (Rimini): Maggioli, 2010. Print.

2nd hand consumption & art and modeling materials

6 2ND HAND CONSUMPTION IN ART SUPPLIES AND MODELING MATERIALS

Consumers' sensitivity to waste and recycling offers another area for strategic reflection. Waste and the "throw-away" society have provoked counter reactions, such that consumers search for functional objects at the best price or for used objects that can fulfill a function through repair or restoration, which in turn becomes highly gratifying. Restoring and personalizing recovered objects is a consumption trend, as exemplified by "do-it-yourself" projects and publications, something that critical sociologists were noting 30 years ago.[23]

Similarly, the "shabby chic" movement is on the rise. A contemporary approach involves repairing old furniture by repainting it or altering its original function creatively (e.g., using a garden bench as a living room table). Such trends can provide new retail concepts offering both newly produced articles and original products resulting from the restoration of used objects for reuse or resale.

Creative reuse is described as an ecological treasure and highly influential on enhancing creative skills. This approach will be defined in a more detailed way through the case studies in the following Chapter 7.3.

6.1 BENEFITS OF USING SECOND HAND MATERIALS IN ARTS AND DESIGN FACULTIES

Almost every design and architecture student complains about the money spent on the modeling materials art and supplies throughout their education. These departments always demand an additional budget than others.

Also the materials are mostly expensive and it is not easy to find them everywhere. The competition in the market is not so polyphonic that the prices are always on a medium or high level.

Additionally the materials and supplies are really common and students tend to influence each other when a new material is discovered for a prototyping solution.

Another important point is a lot of waste materials are being produced in these departments and at the end of the day they all end up in the dumpsters.

Therefore this area suits really well to investigate the need for having a platform to share them and enhance creative reuse.
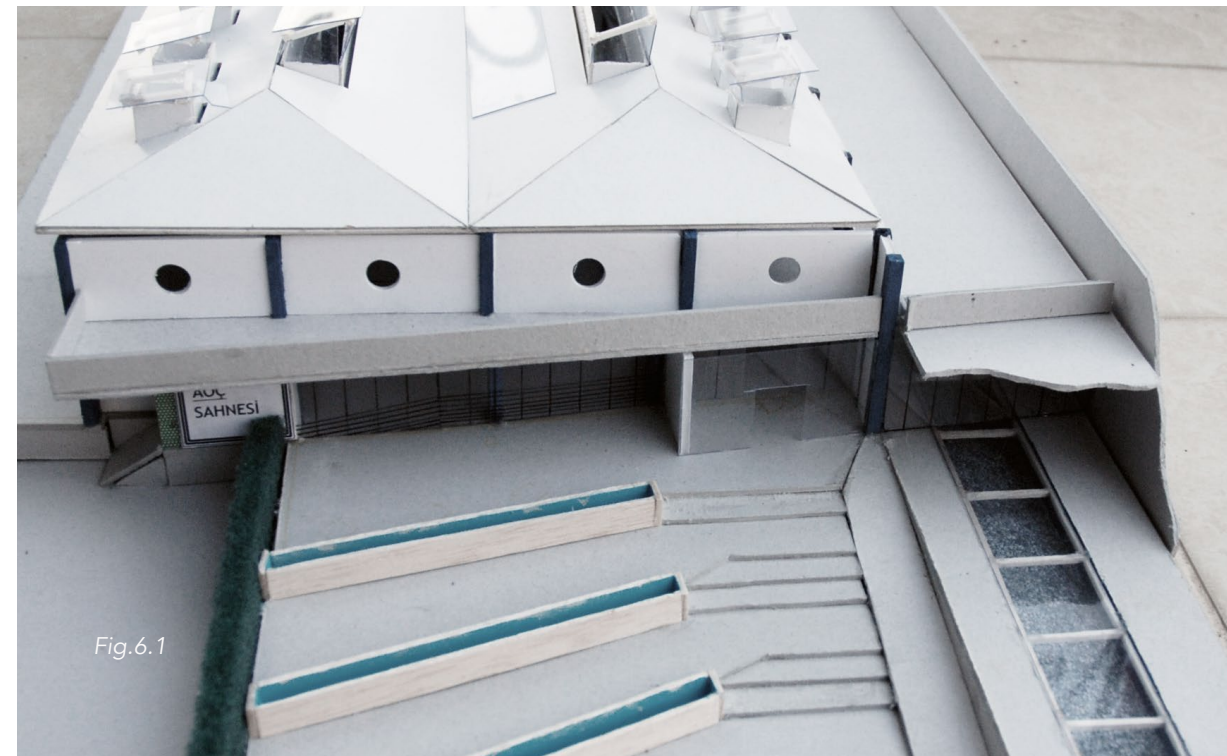

Fig.6.1

23- Baudrillard, Jean (1998), The Consumer Society: Myths and Structures, London, UK: Sage Publications.

C

EXPLORATORY & DESCRIPTIVE RESEARCH

6. Case Studies
7. In-Depth Interviews
8. Cross Sectional Analysis: Sample Survey
9. Concluding: Possible Outcome

Exploratory research is conducted to provide a better understanding of a situation. Through exploratory research it is aimed to discover ideas and insights of the people and cases which are related to the topic. Case Studies and In-depth Interviews are types of Exploratory Research.

Case Studies are used to explore empirical inquiry that investigates a phenomenon within its real-life context and to analyze what is happening in the field currently. They are used to explore causation in order to find underlying principles. They are divided into three main areas and a formula is driven for easy understanding and to make comparison in between.

The need about the general subject being investigated on the field by constructing In-Depth Interviews with knowledgeable people about the issue.

Descriptive research is for to describe the characteristics of certain groups. In this thesis, the targeted group is Design and Architecture Students. Cross-sectional type has chosen which is investigation involving a sample of elements selected from the population of interest that are measured at a single point in time. Sample Survey is applied to the representatives of the target group to measure their needs and problems with statistics and percentages.

field analysis

7 CASE STUDIES

The case studies regarding second hand use can be analyzed in 3 groups:

• **7.1 Second Hand Stores** (Thrift Stores & Consignment Stores)

Thrift Stores are non- profit organizations whereas Consignment Store are based on resale. Both has the same attempt which is to extend the life cycle of the products and make them accessible at cheaper prices.

In consigment stores the people who donates earns money from the sales, whereas in the thrift shops the donations are charity.

> 7.1.1 Goodwill, Inc, USA
> 7.1.2 Beacon's Closet. USA
> 7.1.3 Di Mano in Mano, Italy

• **7.2 Community Based Second Hand Use**

They mainly appear as a peer-to-peer trade or swap of second hand supplies in a certain community, like among women, neighbourhood or students.

> 7.2.1 Neighborgoods
> 7.2.2 Poshmark
> 7.2.3 Swap Party, Politecnico di Milano, Italy

• **7.3 Recycled Art Supplies**
 They are mainly non-profit creative reuse center, materials depot, and work-shop spaces.

> 7.3.1 MFTA, Ministry of Cullture New York, USA
> 7.3.2 Scrap, San Fransisco, USA
> 7.3.3 2nd Life-RISD, Providence, USA

The specification flower chart simply explains the characteristics of each case study. It can be used for a quick comparison in between and clear understanding of each one of them.

(Platform: the provider, like a bridge, in between the user and donator.)

Totally works in this way

Partially and/or un-intentioannly works in this way.
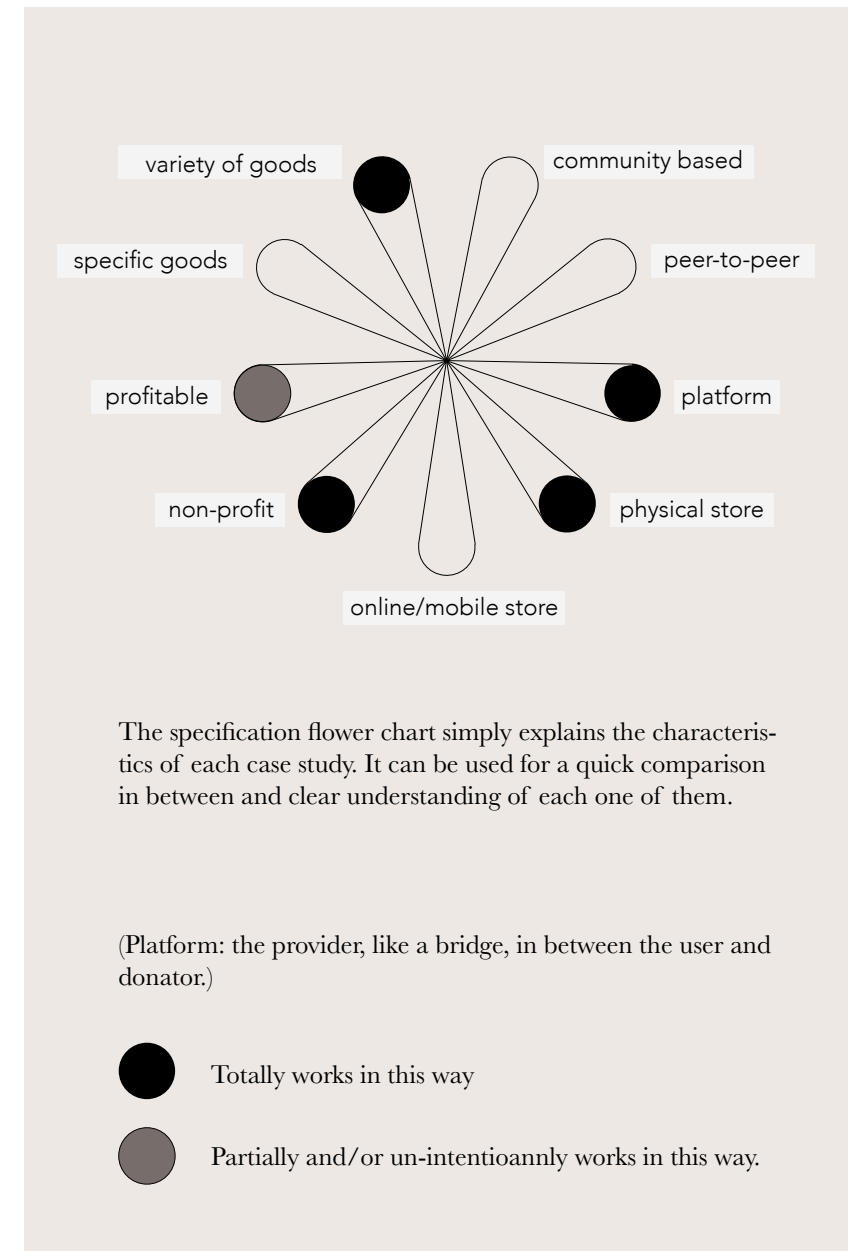
Fig.7.1 The specification flower chart for classifying the case studies.

7.1 Second hand stores

7.1.1 GOODWILL INTERNATIONAL INDUSTRIES, USA

"As a unique hybrid called a social enterprise, we defy traditional distinctions. Instead of a single bottom line of profit, we hold ourselves accountable to a triple bottom line of people, planet, and performance." [24]

what

Goodwill International Industries sells used-goods, (clothes, books, house appliances, electronics, toys etc.) also provides job training, employment placement services and other community-based programs.

how

Donate Stuff.
Create Jobs.
Creates accessible donation spots throughout the country. Collected used-goods are sorted out and managed by the employees and sold with cheap prices.

THIS YEAR YOUR DONATED STUFF HAS HELPED GOODWILL® GET

40,621
PEOPLE BACK TO WORK

figures

13
countries

Venezuela, Brazil, Mexico, Panama, Uruguay, United States, Canada, Korea, Israel

165
organizations

Independent & community-based. Employed 6 million people.

$4.8
billion profit

%82 of the revenue used for employment, training and support services to more than 4.2 million individuals.

24- "Goodwill Industries." Wikipedia. Wikimedia Foundation, 03 Oct. 2014. Web. 10 Mar. 2014.
25- McCrehan, Arlene. "Goodwill's History." Default Podcast. N.p., n.d. Web. 10 Mar. 2014.
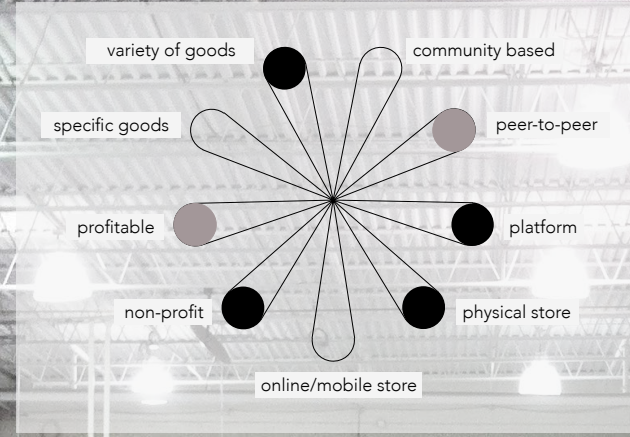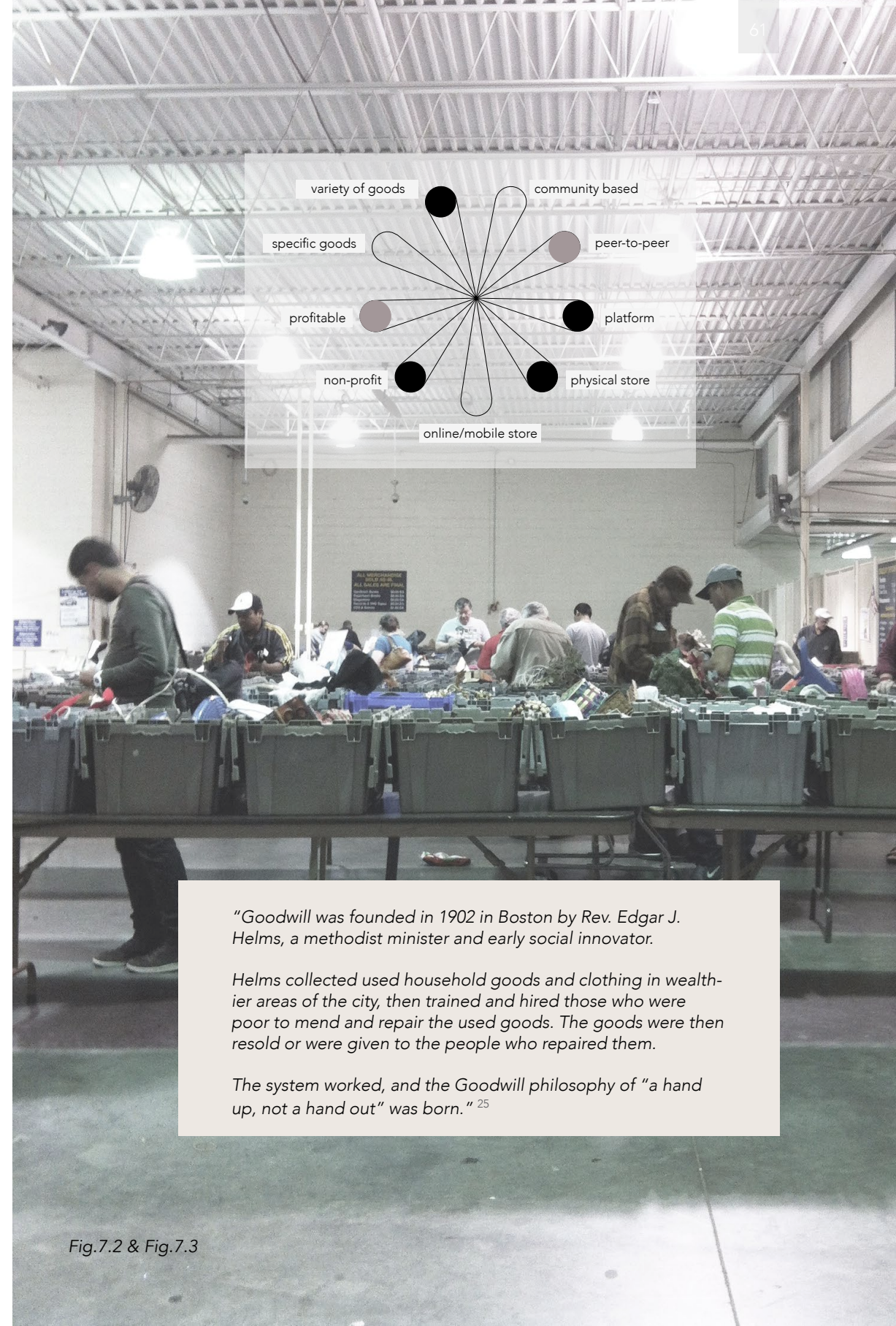
"Goodwill was founded in 1902 in Boston by Rev. Edgar J. Helms, a methodist minister and early social innovator.

Helms collected used household goods and clothing in wealthier areas of the city, then trained and hired those who were poor to mend and repair the used goods. The goods were then resold or were given to the people who repaired them.

The system worked, and the Goodwill philosophy of "a hand up, not a hand out" was born." [25]

Fig.7.2 & Fig.7.3

SALES BY THE POUND

Textiles	$1.39 per lb.
0-20 lbs.	1.19 per lb.
Over 20 lbs.	.59 per lb.

Housewares

Excludes items individually priced, Including

• Furniture   • Appliances
• Bikes   • Pictures
• Books   • Rugs
• Electronics   • Collectables
• Computers   • Exercise Equipment

**ALL MERCHANDISE SOLD AS-IS.
ALL SALES FINAL**

▲
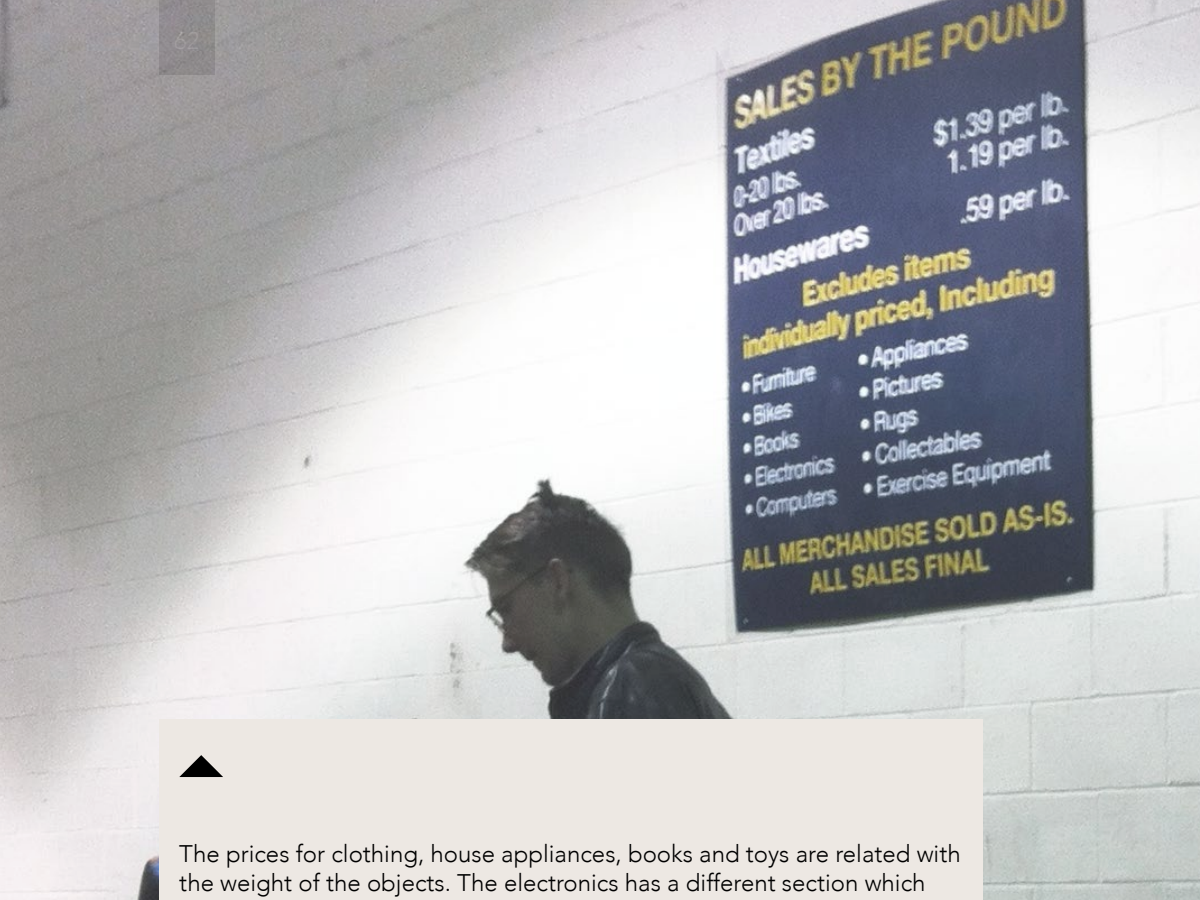
The prices for clothing, house appliances, books and toys are related with the weight of the objects. The electronics has a different section which the products are priced individually.

The clothes are seperated by their colors which makes it very easy to find what you are looking for.

▼

▲
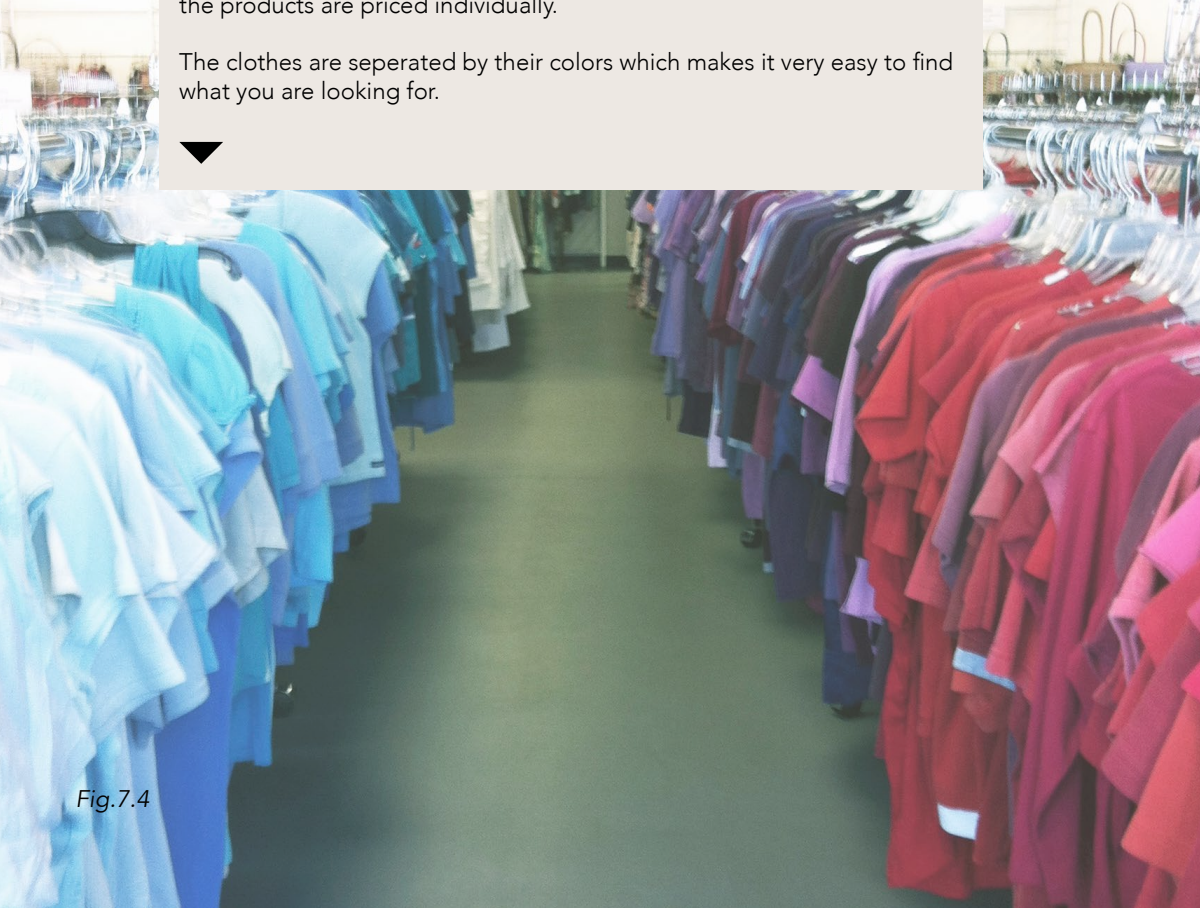
Some of the donated items are put tgether by the Goodwill employees to create 'kits' for certain type of needs. Like; cutlery together with table clothes and salt & pepper shakes.

The donation points can be found on gas stations entrance of shopping malls or big industries, photo taken at 5873 Old Highway US 1, random gas station.

▼

clothes
shoes

Fig.7.4

Fig.7.5

exploratory research/ Case Studies
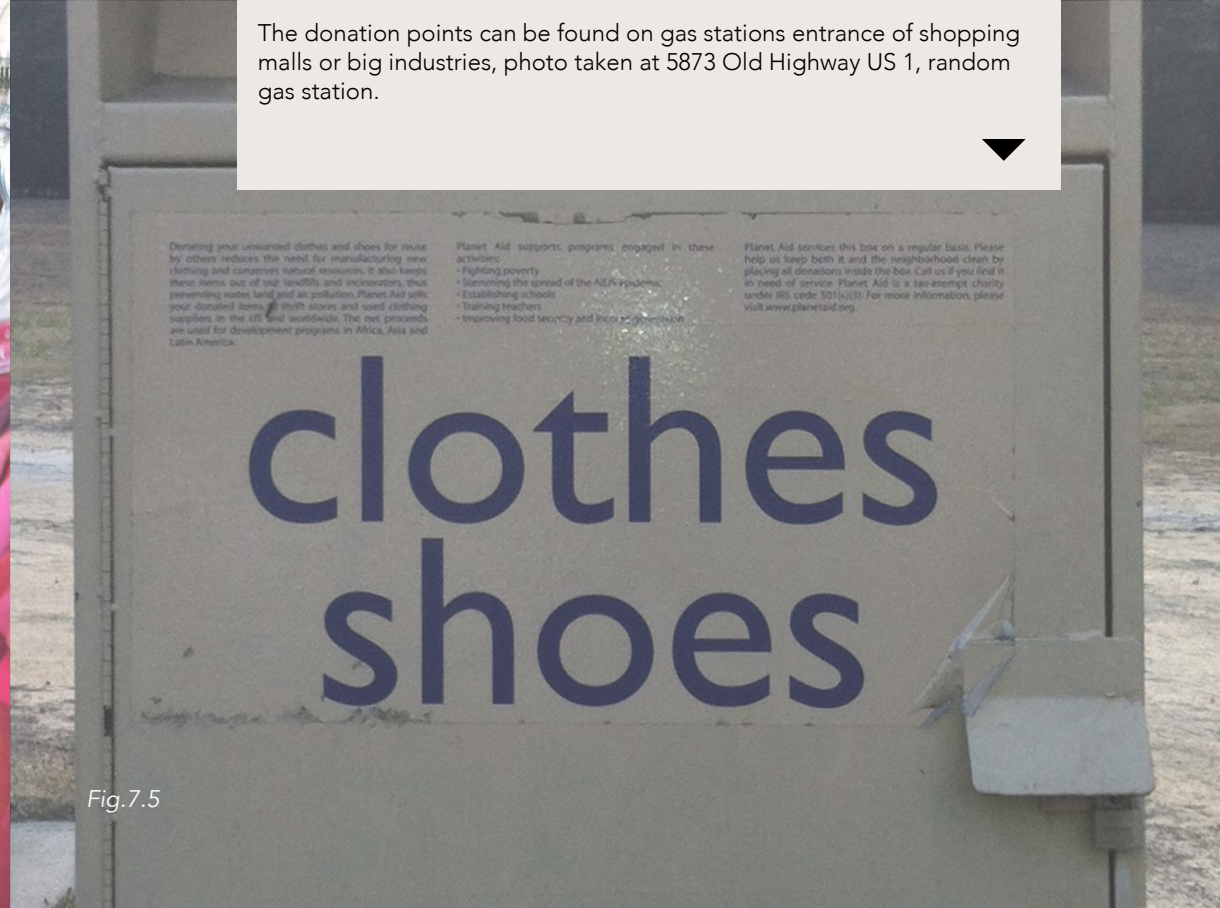
7.1 Second hand stores

7.1.2 BEACON'S CLOSET, NYC, USA

"We pay the highest percentages of any clothing exchange store. We pay 35% cash or 55% store credit of the price tags that we apply to your items you do not wait for your items to sell before you receive your money, you get cash or trade on the spot." [26]

what

Beacon's Closet buys, sells, and trades vintage and modern clothing, shoes, and accessories. No appointments, just walk in to sell your stuff they take care of the rest.

how

Beacon's Closet buys 7 days a week, without appointments.

They want all of your re-sellable merchandise, however, don't encourage no more than 4 large bags.

Items not selected for resale will be donated to charity if not picked up by the customer on the same day that they are dropped off.

They buy according to demand, condition, and inventory levels. And the customer can select to get cash refund or store credits.

figures

3
stores

Park Slope, Williamsburg & Manhattan

9.2
rating

One of the top 10 things to do in NYC. Regarded as local experience the picked items are usually highly appreciated by the shoppers which makes the difference from other consignment stores.

25- Beacon's Closet. N.p., n.d. Web. 13 Mar. 2014.
26- Witker, Polly. "Beacon's Closet." Shopikon. N.p., n.d. Web. 13 Mar. 2014.
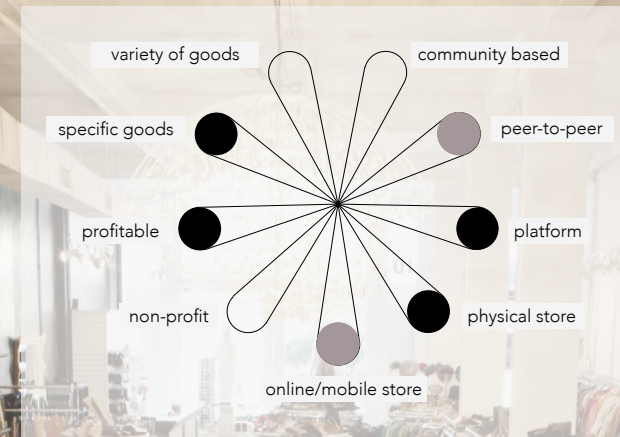
'All the affordably priced merchandise stocked here is bought directly from the public, which gives the shop a real local feel.

You'll find designer clothing and accessories that range from great vintage boots and sunglasses to sleek jackets and flirty dresses right alongside reasonably priced basic clothing. Beacon's buys seven days a week, so the selection is constantly changing.

And if you're really cleaning house, they'll conveniently offer to donate whatever they don't buy to charity, so you won't have to cart your duds back home.

Newer items like handbags, belts, and jewelry round out the selection, making Beacon's Closet a great place to shop for men and women who are big on style, but low on funds.' [27]

Fig.7.6 & Fig.7.7

7.1 Second hand stores

7.1.3 DI MANO IN MANO, ITALY

"We were not content to build a place of work, and maybe even nice alternative, but we aimed to build a social place, a place where you work, you grow, you are communicating, you live and you learn to live a long life." [27]

what

A social enterprise, which has its roots in the experience of community life and Castellazzo Villapizzone, organized in partnership with Mondo di Comunità e Famiglia. Buying, selling and repairing variety of goods and creating jobs.

how

- Buy unwanted items from the community: antique furniture, antique paintings, sculptures, ceramics, clocks, objects, prints, books and collectibles, whole libraries, chandeliers, design furniture and accessories.

- Repair the furniture and restorate the paintings if needed.

- Free evictions: they clear attics, basements, apartments, offices.

- Collect these items in the stores and sells them, by hiring the people in need with a fair working hours policy.

figures

6 stores — 3 stores in Milan, 3 stores in Parma.

1.6 million Euro — The total profit of year 2010. Apart from this value, 756.000 Euro paid to the employees and 1.8 million Euro is spent on production & utilities. [28]

27- "Impresa Sociale." www.dimanoinmano.it. N.p., n.d. Web. 13 Mar. 2014. Di Mano in Mano Soc. Coop.
28- "Bilancio Sociale 2010." Di Mano in Mano, n.d. Web. 13 Mar. 2014.

variety of goods · community based · specific goods · peer-to-peer · profitable · platform · non-profit · physical store · online/mobile store
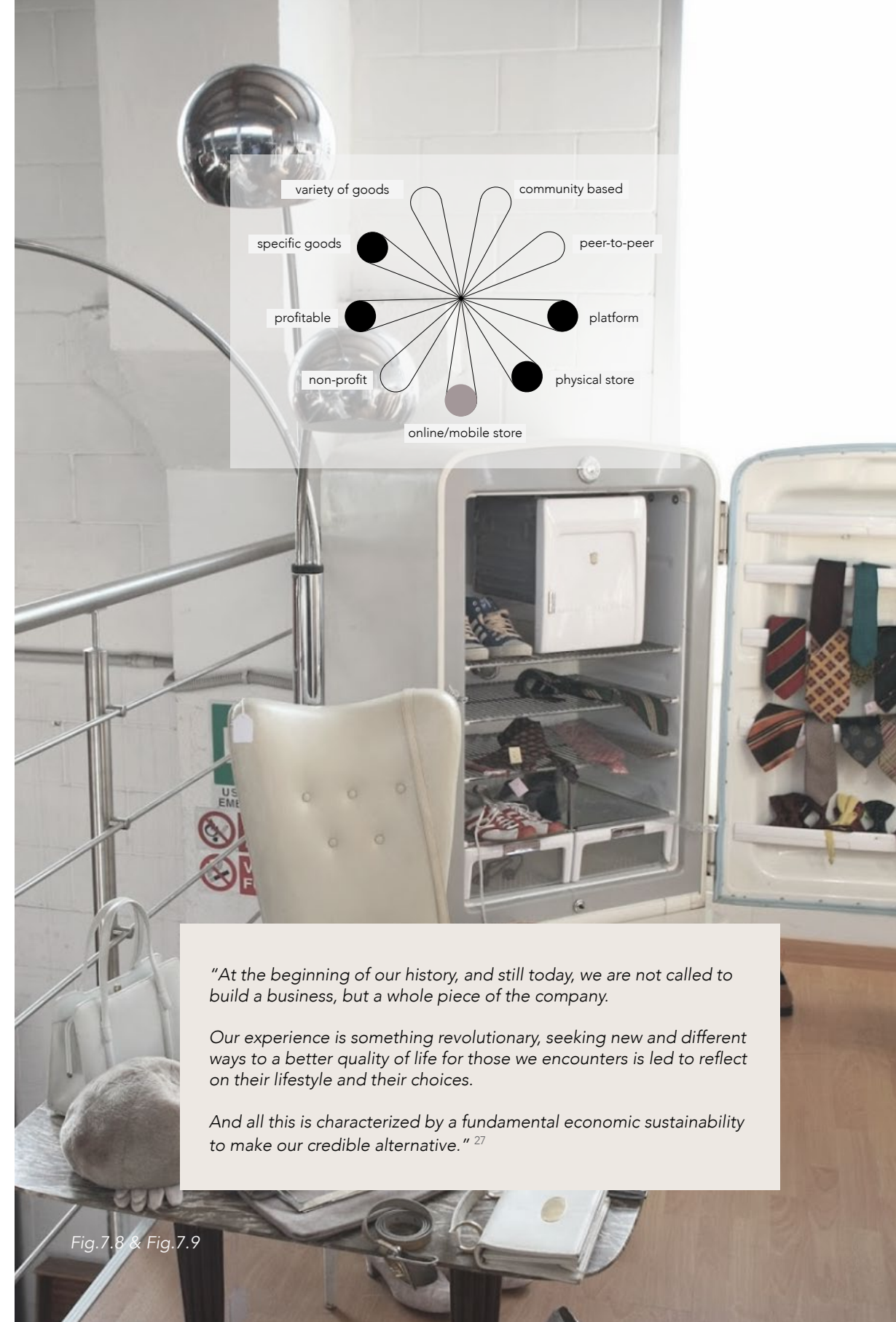
"At the beginning of our history, and still today, we are not called to build a business, but a whole piece of the company.

Our experience is something revolutionary, seeking new and different ways to a better quality of life for those we encounters is led to reflect on their lifestyle and their choices.

And all this is characterized by a fundamental economic sustainability to make our credible alternative." [27]

Fig.7.8 & Fig.7.9

7.2 Community Based Second Hand Use

7.2.3 NEIGHBORGOODS, ONLINE PLATFORM

"Need a ladder? Borrow it from your neighbor. Have a bike collecting dust in your closet? Lend it out and make a new friend." [29]

what

NeighborGoods is a safe community where you can save money and resources by sharing stuff within your neighbourhood. It is is a social inventory that helps us all get more value out of the stuff we already own.

how

- Search your neighbourhood or create your own group to share items.

- Facilitate transactions with a reservation calendar, automated reminders, wishlist alerts, and private messaging between neighbors. The system keeps track of all your stuff.

- Members rate each other and even flag another member's account if something goes wrong. Through transparency and peer ratings, the system provides members with all the tools they need to share safely and confidently.

- Upgrade your account by payin 10$/year to access more items.

- Using the items fairly, returning them back and being on time are the golden rules of the system.

figures

22
billion dollars

The amount of money that Americans spend a year on self-storage.

1
m2

Self storage amount per person in United States, which makes 313.9 million m2 in total.

29- "Sharing Guidelines." - NeighborGoods. N.p., n.d. Web. 16 Mar. 2014.
30- "About NeighborGoods." - NeighborGoods. N.p., n.d. Web. 16 Mar. 2014.

"Not only does NeighborGoods provide a way to save money and resources - it also connects neighbors in meaningful ways making for happier, healthier neighborhoods.

Lending and borrowing stuff is nothing new. We've all spent our entire lives sharing with others and we all understand the basic rules. NeighborGoods simply makes this familiar activity easier by providing a central inventory system with scheduling and reminders." [30]

Fig.7.10 & Fig.7.11

7.2   Community Based Second Hand Use

7.2.3 POSHMARK, MOBILE APP

"Ever wish you had a style-mate and could shop her closet? Now you can. ave items in your closet that you love, but just don't wear anymore? List it for sale on Poshmark in less than 60 seconds. Sell what you have in your closet so you can shop for what you really love today." [31]

what
Poshmark is a mobile fashion marketplace for women across USA, built around real-time social experiences. Posh Parties are themed, real-time shopping events where people gather to shop, share, and sell fashion right from their phones.

how
- Create a Covershot- take pic of your items and post them on your own profile.

- Attend a Posh Party- virtual shopping party where you trade which are orgnaized by themes like: essential jackets & coats party where you can buy & sell only jacekts and coats.

- Sell with EasyShip- ship with a pre-paid, pre-addressed label, all ready to be put on the box.

figures

250 thousand | active users swapped | **1** million | items in 2013.

70 percent % | Of the buyers are also sellers.

12 million Dollars | Second round funding from Menlo Park Ventures.

31- "Poshmark Edit." Poshmark. N.p., n.d. Web. 16 Mar. 2014.
32- "Poshmark, The Mobile Marketplace For Women To Sell And Swap Clothes, Crosses 1M Items Sold So Far This Year." TechCrunch. N.p., n.d. Web. 18 Mar. 2014.
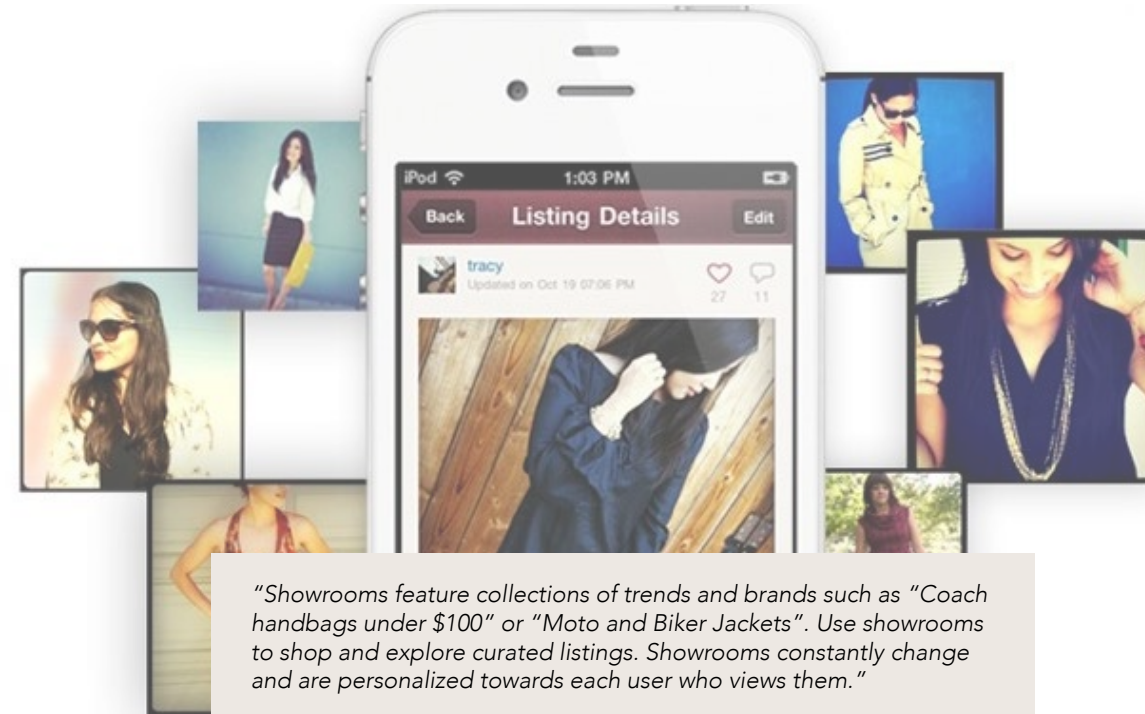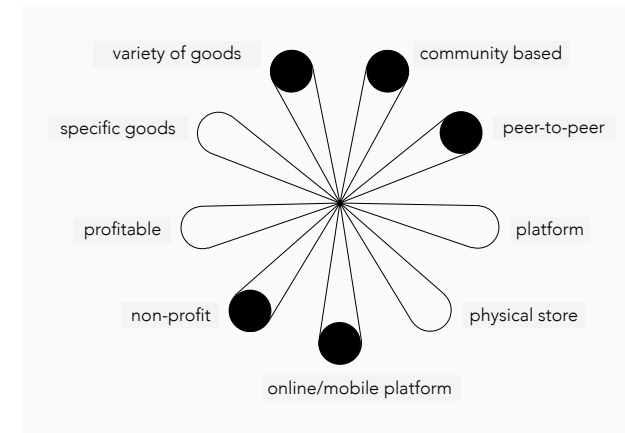
"Showrooms feature collections of trends and brands such as "Coach handbags under $100" or "Moto and Biker Jackets". Use showrooms to shop and explore curated listings. Showrooms constantly change and are personalized towards each user who views them."

"Poshmark is more than just another shopping destination. We are focused on offering a one-of-a-kind unique experience in connecting people and their closets. Join us and be part of this awesome community where we thrive on trust, respect, and of course, a shared affinity for new discoveries in fashion." [32]

Fig.7.12 & Fig.7.13

explorotary research/ Case Studies

7.2 Community Based Second Hand Use

7.2.3 SWAP PARTY, POLITECNICO DI MILANO
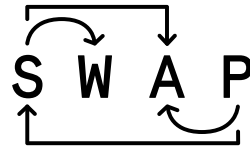
S W A P

"A deeper social experience. Attach a short memory related to the garment you're going to leave to the Swap Party." [33]

what

Bring clothes you don't use anymore and exchange them with other which have the same value. A service design event made by the students of Temporary Urban Solutions workshop for Il Sabato della Bovisa.

how

The value judgement is based on three commercial value categories expressed with colors (i.e. blue = 20-30 euros; green= 30-50 euros; yellow= 50-100 euros). People can swap their tokens with garments that are labeled with the same colored token.

The labels were made of colored paper, blue for low, green for middle, yellow for high quality. Labels were printed in b/w and cut with the shape of a real label and hanged to the clothes through a cheap twine. Everything was done with a very, very low budget, not only for the lack of money but also because of the spirit of the project.

The partnership with Dergano Parrish was managed at first going on site, speaking with the volunteers and ask their needs; secondly, once understood the specific need that they had (underwear and blankets instead of fancy clothes that no needy people wear) we decided to ask neighbors to bring not only clothes to be swapped, but also useful garments and blankets to help Dergano Parrish. The left over clothes are given to the Parrish: it is connected with Caritas and City Angels, so they always needs new clothes.

figures

150
items

The number of clothes and accessories swapped on the event day.

33- Interview with Marta Gattoni, Swap Team Member.
Other members: Gianvito Fanelli, Marta, Jacopo Pompilii, Claudia Zampella.

variety of goods — community based
specific goods — peer-to-peer
profitable — platform
non-profit — physical store
online/mobile platform

Qual è la storia di questo capo?
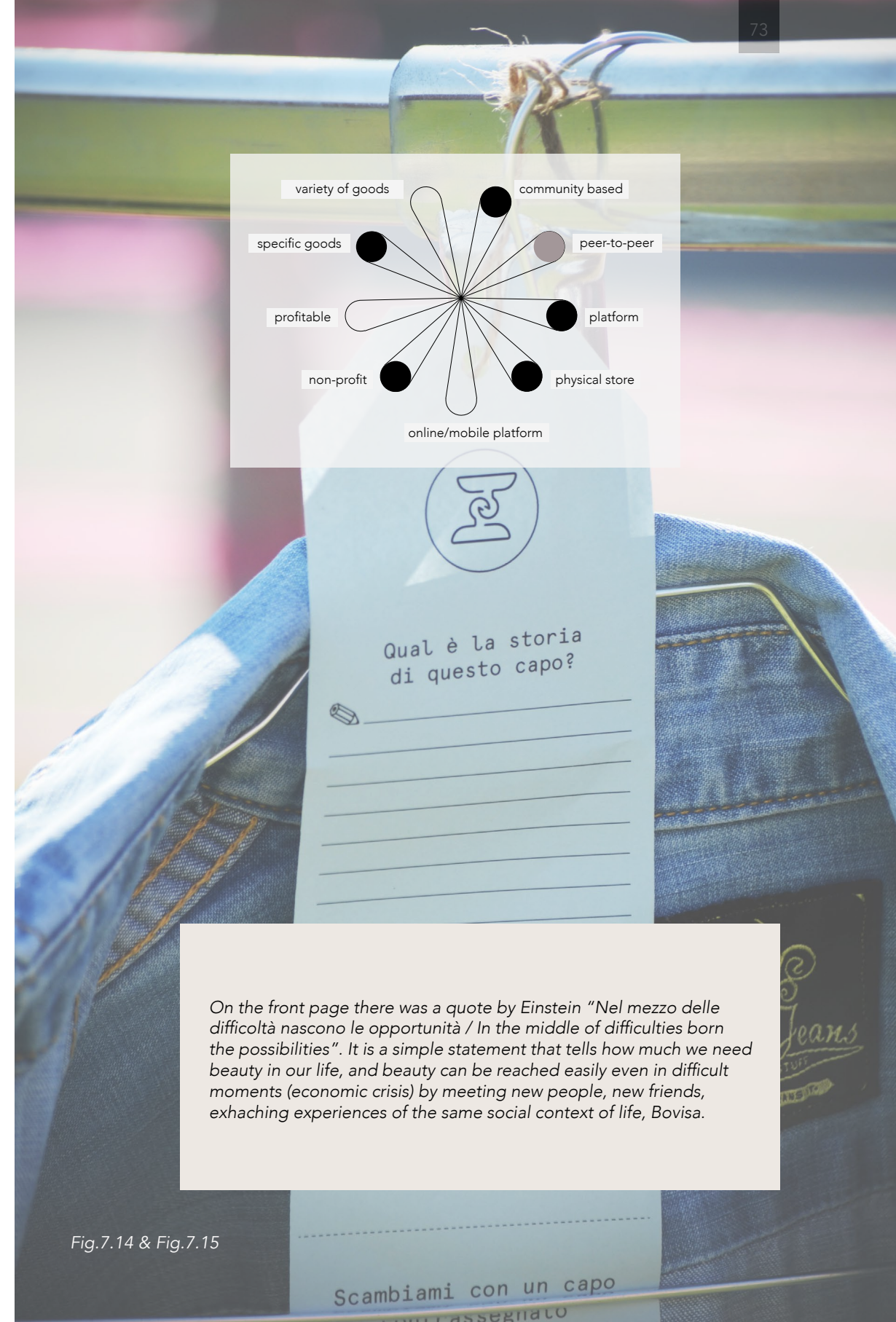
On the front page there was a quote by Einstein "Nel mezzo delle difficoltà nascono le opportunità / In the middle of difficulties born the possibilities". It is a simple statement that tells how much we need beauty in our life, and beauty can be reached easily even in difficult moments (economic crisis) by meeting new people, new friends, exhaching experiences of the same social context of life, Bovisa.

Fig.7.14 & Fig.7.15

Scambiami con un capo

explorotary research/ Case Studies

7.3 Recycled Art Supplies

7.3.1 MFTA, NYC, USA

materials for the arts
DEPARTMENT OF CULTURAL AFFAIRS

"We offer a wide variety of events, workshops, and classes to help people see and experience creative reuse up close. With 4,201 member organizations and schools throughout the five boroughs, donors to MFTA support creativity throughout our City." [34]
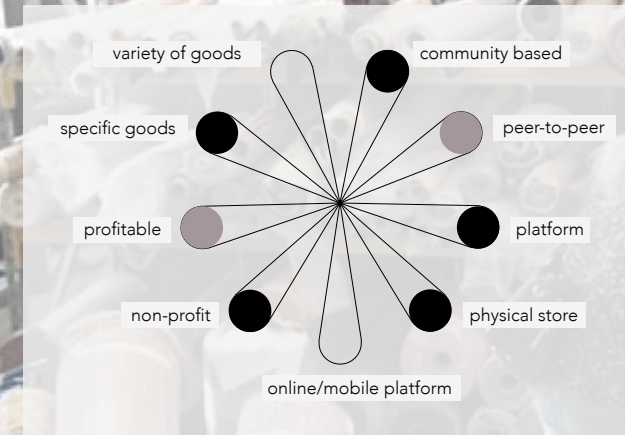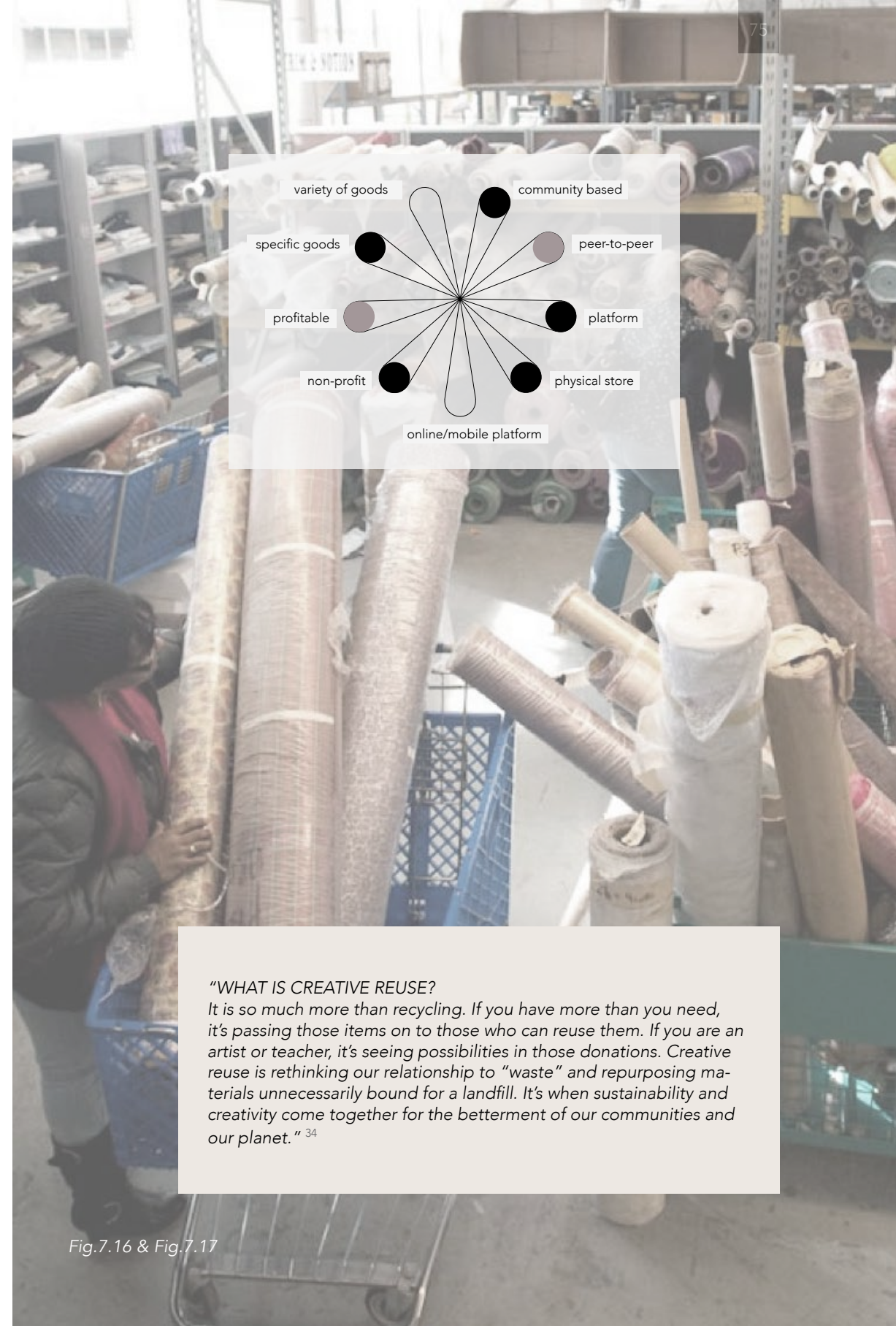
what

Materials For The Arts is a program of the New York City Department of Cultural Affairs, with support from the Departments of Sanitation and Education. They collect unneeded items from businesses and individuals, and make these donations available for free to its recipients: nonprofit organizations with arts programming, government agencies, and public schools.

how

They work as a bridge in between non-profits and government.

They ensure that durable goods passes from good hands rather than ending up in the dump.

They pick-up the materials from companies on demand for free.

Their goal is to have an impact on classroom learning-public school teachers uses the source and create their lesson plans on the basis of project- based learning.

figures

1,876
non-profits

recieved the distrubuted with the donations of

4,201
member organizations

18
thousand

Participation in educational programs grew by over 400% in 2012.

341
thousand Dollars

Raised from the bussinesses and individuals on 2012.

34- "MFTA - About Materials for the Arts." MFTA - About Materials for the Arts. N.p., n.d. Web. 28 Mar. 2014. Friends of Materials for the Arts 2012 Annual Report (n.d.): n. pag. Nyc.gov. Web. 22 Mar. 2014.

variety of goods — community based
specific goods — peer-to-peer
profitable — platform
non-profit — physical store
online/mobile platform

"WHAT IS CREATIVE REUSE?
It is so much more than recycling. If you have more than you need, it's passing those items on to those who can reuse them. If you are an artist or teacher, it's seeing possibilities in those donations. Creative reuse is rethinking our relationship to "waste" and repurposing materials unnecessarily bound for a landfill. It's when sustainability and creativity come together for the betterment of our communities and our planet." [34]

Fig.7.16 & Fig.7.17

exploratory research/ Case Studies

7.3 Recycled Art Supplies

scrap
a source for the resourceful

7.3.2 SCRAP, SAN FRANCISCO, USA

"SCRAP's mission is to stimulate creativity and environmental awareness in children and adults through promoting the creative reuse of materials that traditionally have been discarded as waste." [35]

what

SCRAP is a non-profit creative reuse center, materials depot, and workshop space founded in 1976 in San Francisco, California.

how

• Maximize the diversion of reusable discarded materials from the solid waste stream.

• Collect and redistribute these materials to underfunded educational programs and organizations, teachers, artists, parents, and students in the community.

• Educate and benefit the community in the art of creative reuse.

The warehouse is organized by type of material: wood, metal, glass, fabric, paper, images, plastic, natural materials, beads & buttons, arts & crafts, toys, and more. The entrance contains a section of free materials. The rest are available at low-cost. Monies raised from the depot keep SCRAP going, offering free materials pick-ups, low-cost workshops, school field trips, and more.

figures

465
m2

Warehouse provided by the San Francisco Unified School District. In exchange, SCRAP provides services to teachers, parents, and community organizations operating in the schools.

250
tons

SCRAP breathes new life into old objects and reduces waste by diverting over 250 tons of materials heading to landfill every year.

35- "SCRAP | About SCRAP." SCRAP | About SCRAP. N.p., n.d. Web. 28 Mar. 2014.

variety of goods — community based — specific goods — peer-to-peer — profitable — platform — non-profit — physical store — online/mobile platform
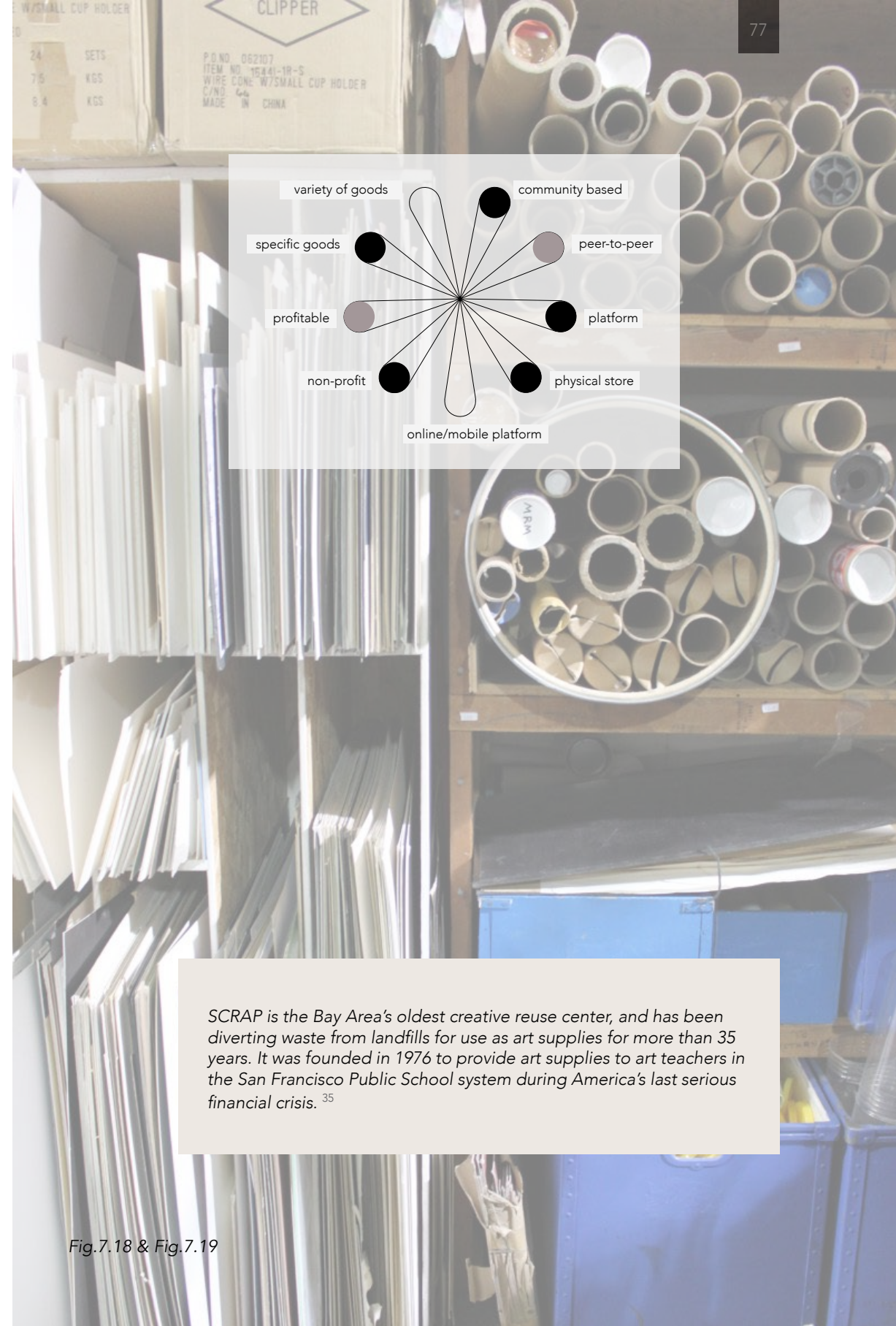
SCRAP is the Bay Area's oldest creative reuse center, and has been diverting waste from landfills for use as art supplies for more than 35 years. It was founded in 1976 to provide art supplies to art teachers in the San Francisco Public School system during America's last serious financial crisis. [35]

Fig.7.18 & Fig.7.19

explorotary research/ Case Studies

7.3 Recycled Art Supplies

7.3.3 2ND LIFE, RISD, USA

"Last Saturday a young woman visiting RISD's 2nd Life store was digging through a wooden box chock full of materials when she pulled out a roll of shiny leather. 'This is rare to find,' she exclaims, smiling brightly. 'I'm going to stash this away for a special project." [36]

what

2ndlife is a non-profit student run up-cycling materials center, that promotes sustainability and creativity through the collection and redistribution of art supplies and materials back into the local Providence and RISD community.

how
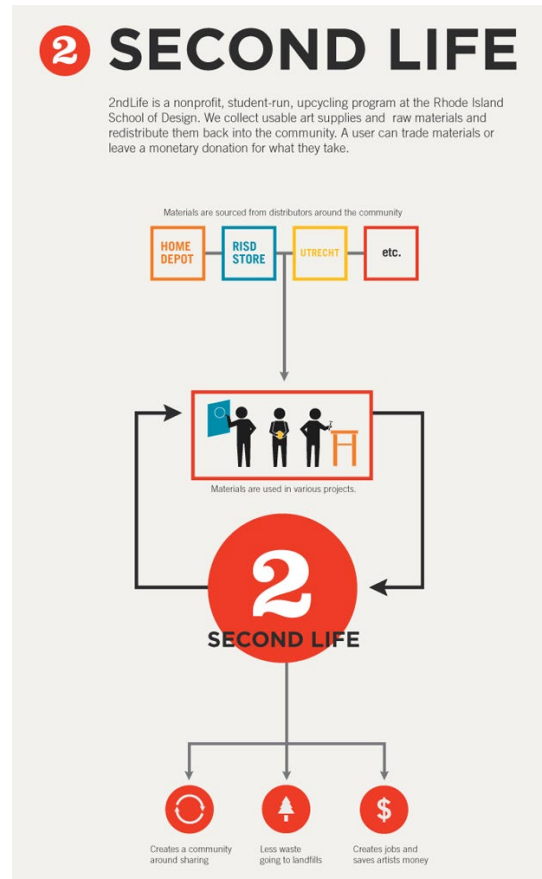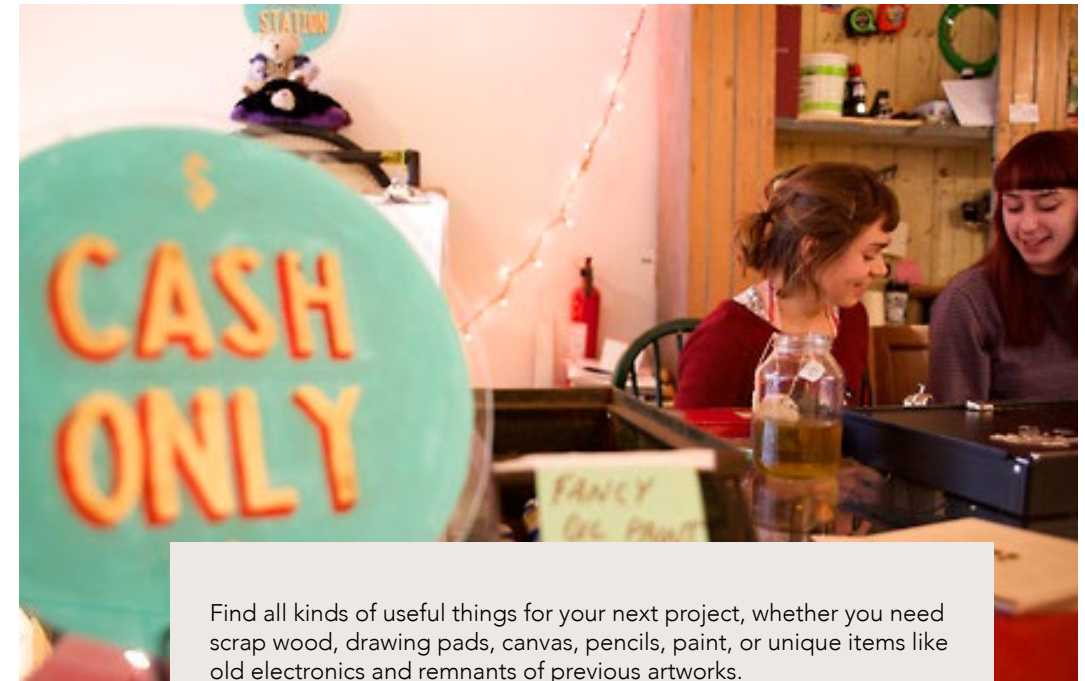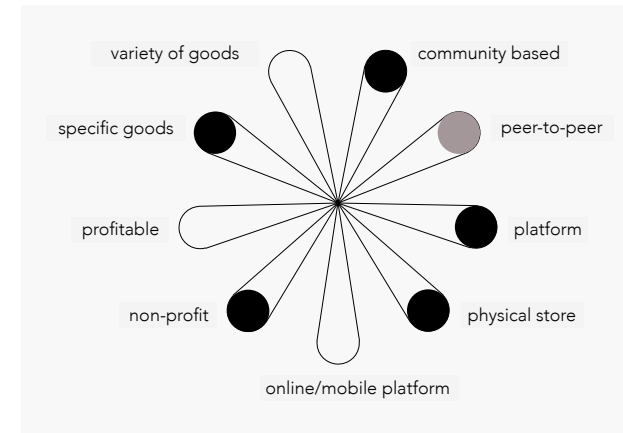
Find all kinds of useful things for your next project, whether you need scrap wood, drawing pads, canvas, pencils, paint, or unique items like old electronics and remnants of previous artworks.

For artists on the hunt for cheap supplies, RISD's 2nd Life is a magical place. Organizers of the student-run materials resource center collect donated supplies – from tubes of oil paints to rare textiles, vintage electronics and even plastic squirt guns – and then resell them at discounted prices.

Fig.7.21 & Fig.7.22

36- "RISD CSI." / 2nd Life. N.p., n.d. Web. 28 Mar. 2014.

Started in 2004 in as a student lead effort for more sustainable practices, 2ndLife remains one of the most active organizations within the RISD and the Providence community.

It was listed as one of the, "Ten Companies who are leading the eco-move-ment" and a project that the Geraldine R. Dodge Foundation would like to see implemented at, "any New Jersey university campus, better yet, how about in any New Jersey town." Brown University, Pratt College of Art & Design, and most recently the University of California Davis, also of want to start similar programs at their schools, inspired by 2nd Life.

Some insights:

"Now in our eighth year running, it has been a goal to expand into the local community, and it's so rewarding to finally see this dream come true," Joseph Escobar ['13 Industrial Design] and Hilary Wang ['14 Glass], co-directors of RISD 2ndLife.

"You can find some pretty weird stuff here," notes Julia Wright 16 TX, who works at the space downtown (at 204 Westminster). "Someone dropped off a bunch of military dog tags the other day. We're giving them away for free." For artists on the hunt for cheap supplies, RISD's 2nd Life is a magical place. Organizers of the student-run materials resource center collect donated supplies – from tubes of oil paints to rare textiles, vintage electronics and even plastic squirt guns – and then resell them at discounted prices.

"I have a constant need to prototype ideas for new products. Using a range of materials: paper, foam, and sewn textiles this series of models shows a variety of rapid (hand) pro-totyping techniques I use to quickly test ideas and designs. Therefore 2nd Life is helping me a lot for making it real." Diana Wagner ['14 MID]

37- "Our RISD — Last Saturday a Young Woman Visiting RISD's 2nd..." N.p., n.d. Web. 28 Mar. 2014. "Davis Founda-tion Funds New Pilot Program | News | About | RISD. N.p., n.d. Web. 28 Mar. 2014.

The Story of How I Met 2nd Life

Me and my team mate had to design a product, and realize a mock-up and we needed a simple gear mechanism. We could laser-print it but there was a long waiting list to use the machine and we had no time. We could make it up by using Lego kits but we couldn't fine the size we seek for.

So we build a simple one out of wood and elastic bands which gave the idea but didn't work properly at the end.

Then we met with this person who did a fine gear for his senior project and donated it after to Risd 2nd Life, that if we had known about it we could just buy it with a cheap price and didn't get frustrated throughout our project. Because the core of the project wasn't the gear design but it was an essential part to make it real.

Couple of days later, the workshop of the course was announced and it was to redesign the interior of 2nd Life store. Voila! My team's project was the one selected to be realized! We started to work on it, due to the money issues it ended up being a different interior but anyways the problem was solved, a lot of students participated with any material, skill and help needed.

Then the idea popped in my mind. In any design university we buy and use lots of modeling materials. Most of the time we keep a lot of stuff in our lockers or apartments to save them for later. But do we really use them? I heard so many examples that at the end of the year\course these semi-used materials kept in a box and forgotten and trashed eventually. Why not use them collaboratively? A service which sorts the materials, disassemble the models and make them approachable, could save students money and time.

Fig.7.23 My team's design proposal for the redesign of the space.

exploratory research/ Case Studies

2ND LIFE - RISD

Before

After

Organizers have plenty of space to stockpile their ever-revolving supply of materials. Last fall Interior Architecture students taking Adaptive Reuse, a course taught by Assistant Professor Yugon Kim, redesigned the space, adding wooden shelving units and storage areas to better organize the center's materials.
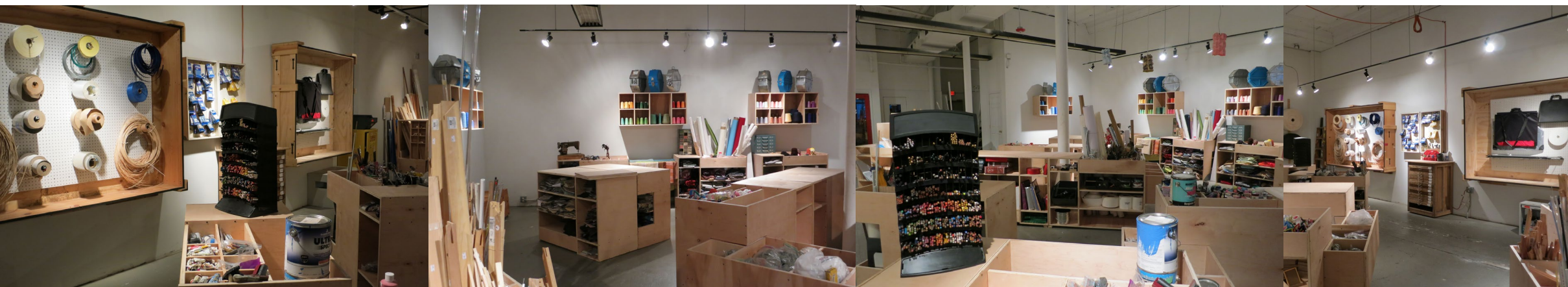

Fig. 7.24 Photos by: Corinn Hanson

8.1 INTERVIEW WITH MATTEO DALL'AMICO, LAB MODELLI

February, 3 2014

• Collecting waste materials such as paper, wood and polystyrene is already happening in the labs simultaneously and naturally.

• At the end of each semester (February & July) a big truck comes to the campus and takes all the trash. The amount of the trash is usually massive.

• We clean up the labs in every two weeks and trash the waste materials.

• The cleaning staff (janitors) is supposed trash everything inside the classrooms to when it's requested by the professors and during the ending of semesters.

• We don't find that much of semi-used supplies in the lab, usually students come back to pick up the forgotten stuff.

• I don't believe the credit system will work. There is also another thesis project in the lab called LABacheca but no one is really contributing.

• Usually at the end of the semesters the corridors are full of excessive materials and models, and they usually end up in trash.

• It is not a law to sort and recycle the materials for the general city dumpster, so that's why on the streets there is only one trash bin but in the apartments several to sort individual waste. There is a private company sorting the waste for city dumpster, which is expensive and costing a lot to the government.

The problem for us is to trash models. Disassembling the models can be a promising solution.

Fig 8.1

Fig 8.2

Fig 8.3

8.2 INTERVIEW WITH MATTIA FAVALLI, LAB ALLISTEMENTI

February, 18 2014

• We usually have only small pieces left after a project. If we end up with a big piece, which doesn't look useful, we divide them and put them in the recycling bins, which are also a collection point for reuse.

•Our main intension is not to waste any material actually we are really careful about this issue. We don't only work for Politecnico but we also do some jobs outside for exhibitions. After those, we end up having so many graphic boards, which are and we offer them to use as cutting boards, at least we are trying to extend the life of them, after of course they end up in trash.

• To tell the truth, we divide everything in the right bins and collect the materials from the tables. There some students doing that but few. The problem is not even to trash them in the right bin, but put them in a bin! So we try to put every type of trash bins in every corner of the lab to make it easier. So you don't have to go downstairs, even sometimes you don't even have to stand up.

•Students usually do not leave a lot of stuff behind; they just come with their cutters and use the machines here mostly. One of the few examples of left material is spray paint. We collect them, and also let the other students use if someone asks for a small amount of that specific colour.

• We are trying our best to divide the excessive materials for future use here but actually we have limited type of materials in this lab. My suggestions can be creating a common space for these materials and sorting the real useful ones.

*The useful approach is creating a **common space** for these materials and sorting the real useful ones. Students are lazy to move around so it should be **accessible** for everyone.*

Fig 8.4

8.3 INTERVIEW WITH ELISA PALLUAU, MANAGER, RISD 2ND LIFE

March, 14 2014

• RISD 2nd Life started from a 2004 proposal by students Alex Willams and Kate Arbabanel for the final project for Yuriko Saito's class, Ecological Responsibility in Art and Design.

• Since then, 2ndLife has opened a storefront in downtown Providence and has evolved into a collaboration between the RISD facilities department and the Mayor's Office of sustainability for the city of providence. Joseph Escobar, co director of 2nd Life, met with the Mayor of Sustainability to talk about Waste management. They both grew excited about this collaboration between the City of Providence and RISD. It quickly became apparent that in order to make an impact waste stream program in Providence, 2nd Life had to be effective in the collection and redistribution of materials in addition to being self sustainable. Not only does the program help to create landfill diversion, cut Co2 emissions and cost for the college it also has created a community of learning. It has successfully made students aware of their waster production as well as their ability to participate to help create a solution.

• The biggest change was moving to 204 westminster and actually renting out a store. This made us professional, and our costumers grew from being only some people from RISD buying supplies, to the majority of RISD as well as the providence community.

• If some things are too bad of quality then we put it in the free bin. Otherwise we only accept art supplies or materials that could be used for a project. We do not accept cloths or electronics.

Not only does the program help to create landfill diversion, cut Co2 emissions and cost for the college it also has created a community of learning.

Fig 8.5

• Each of the 2400 students at the Rhode Island School of Design is expected to spend 2781 on art supplies per year. And until 2400, most unused, unwanted art supplies were thrown away during what has been dubbed Annual Move Out, when RISD student leave Providence en Masse to spend the summer elsewhere. In 2004 when Alex Willams and Kate Arbabanel started collecting materials and redistributing them back to students, it helped lower student expenses, while also benefitting everyone environmentally.

• People are reusing materials. They are reducing the amount they buy therefore reducing waste and reducing the amount they spend on art supplies.

• We spent summer 2013 with a crew of 15 people going through all the material and organizing them by material. Then we looked up the price of the supplies if we were to buy it new and we priced it half of its original value. If the material was used or damaged then we reduce the price accordingly. For the fabric, clay, and plasticine, it is priced by the weight which is a dollar a pound.

• All our donations are weighed when they arrive and this helps us keep an accurate count of the amount of supplies that we saved from ending up in the landfill. It is just a successful way to keep track of what goes in and out of the store.

• People who brought in donations have all been very positive about this exchange so we have not had any problems on that level. The biggest trouble concerning donations is pricing it fairly. We have had people feel like our price is unfair or was not consistent throughout the store which is what made us realize that we had to have a system for pricing materials. Since then we have had minimal issues concerning costumers.

• Start speaking with the school office that is in charge of clubs- they will be great advisors and you could work as a team to help make not only your school but the schools outside community more environmentally aware and active. You should speak to the environmental studies head department or a professor that is recommended by your peers for being an environmental activist. Speaking to the closest recycling center and visiting the local landfill will not only be a motivation to get this store started, but you will also learn a lot of useful information about how to take care of our environment.

descriptive research/ Cross Sectional Anlaysis: Sample Survey

9.1 SURVEY STRUCTURE

February, 16 - March, 16 2014

The Target Group:	Design & Architecture Students & Graduates
Strategy:	Mainly divided into two parts as: 1- Questions about art supplies and modeling material use. 2- Questions about 2nd hand use.

Part 1 Art Supplies and Modelling Materials Use	Part 2 2nd Hand Use

Measure:

The type of materials used the most.
- price dependant
- durability, condition
- flexibility to use in
future

The type of materials go
excessive the most.
- tendency to give away
- tendency to use in
future

Measure:

Motivations
- economical aspect
- environmental concern
- anti-ostentation
- accesibility
- condition & quality

Past Behavior

- reuse
- familarity
- trust and reliability.

- A description is provided to help a clear understanding.
- Pleasing colors and graphics are used to give a unique look.
- Questions that could influence the answers to subsequent questions are avioded.
- Answers that could influence the seeked outcome are avoided.
- Related questions are grouped together.
- Clear instructions and a friendly tone used to approach the target group.

Fig 9.1

The subject of this research is about adopting **second hand use** of materials in design and architecture faculties, upcycle the useful supplies and enable creative reuse **among students.**

RESPONSES
206

AVERAGE TIME
TO COMPLETE
04:43

UNIQUE VISITS
388

3% Tablets

20% Smart Phones

COMPLETION
96%

77% PCs & Laptops
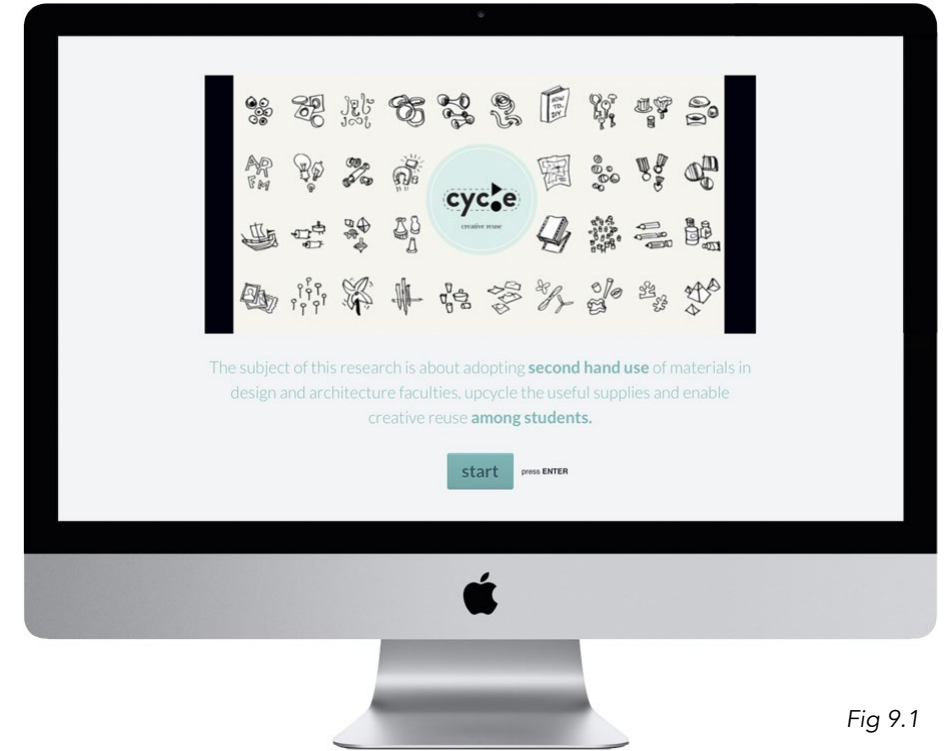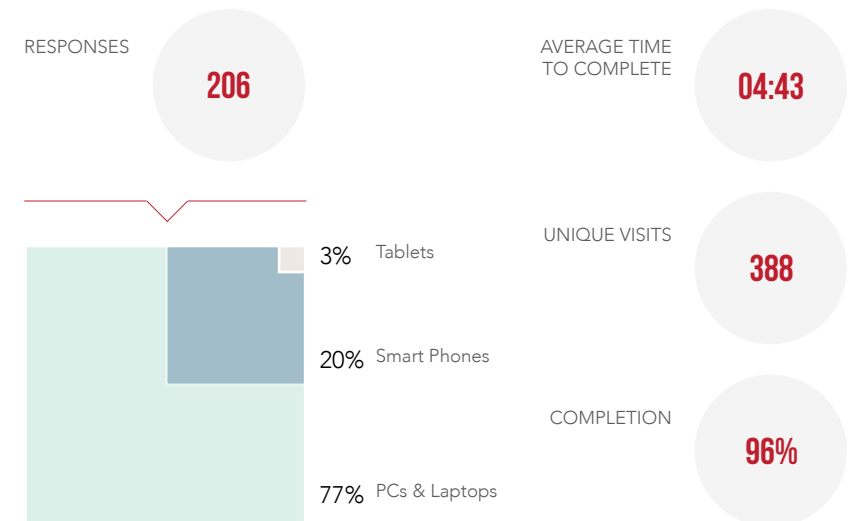
Fig 9.2 Metrics of the online survey.

descriptive research/ Cross Sectional Anlaysis: Sample Survey

9.2 SURVEY RESULTS

1- The most purchased items as a course material and modeling material:
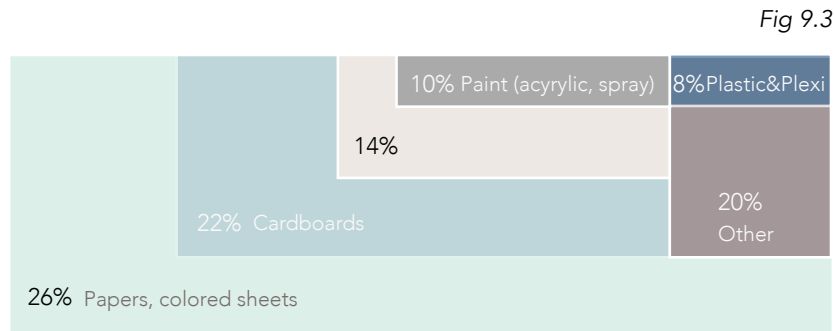
Fig 9.3

The most purchased items are cardboards and paper materials, which the excessive pieces can always be found in every corner in the university.

2- The most purchased items as a course tool:

Fig 9.4
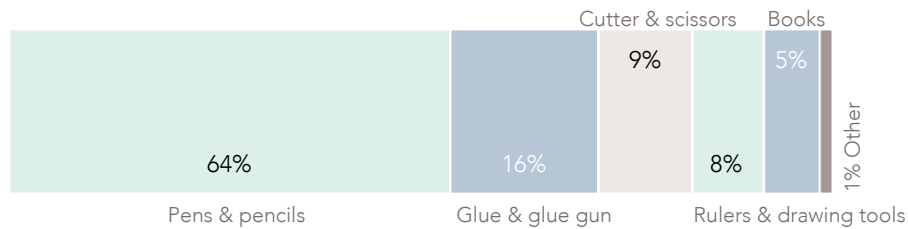
Simple tools like pens, rulers and cutters are the most wanted items as well as most used items.

3- The materials go excessive the most at the end:

Fig 9.5
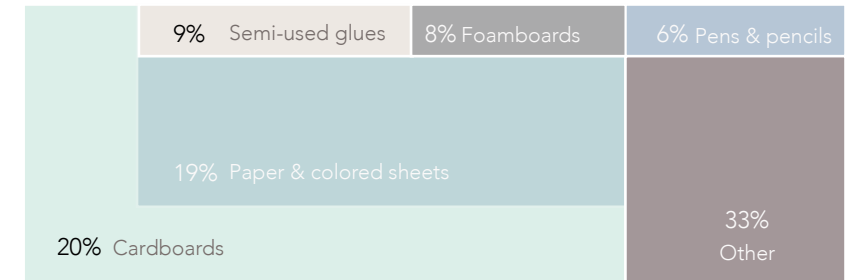
Other: rulers, cutters, dirty brushes, pieces of textile, laser cut-outs, semi used paint, plexiglass, wood pieces, metal screws, usable pieces of styrofoam & polystyrene.

The most purchased items are cardboards and paper materials, which the excessive pieces can always be found in every corner in the university.

4- Tendency to use excessive materials in future:

Fig 9.6
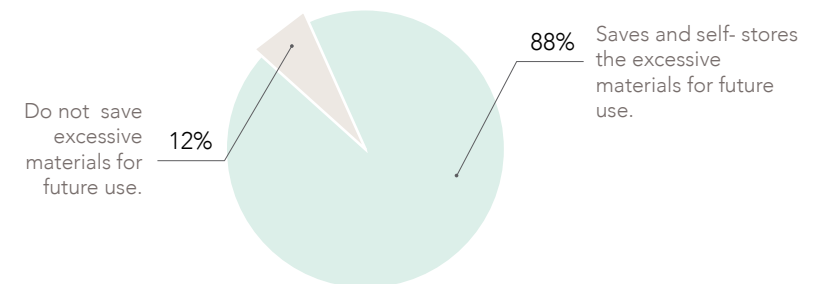
5- The problem of self storage of excessive materials:
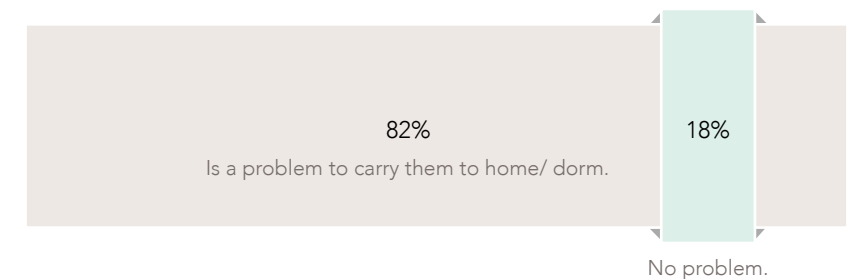
Most of the students tend to save the excessive materials but face with the problem of storing them.

6- The future of the excessive materials, the usability: *Fig 9.7*

They are used only in emergency conditions.

27%

They are used for mock-ups.

44%

The required size or material do not exist.

17%

They are being forgotten, kept collected.

15%
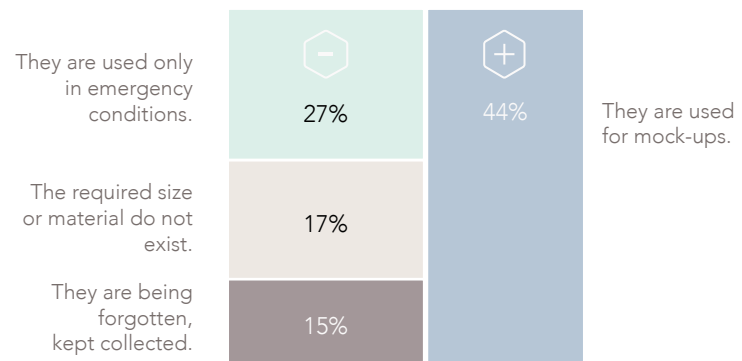
The students tend to use the excessive material for mock-up models but there is also a noteworthy amount that end up with collected but not used excessive materials. This means a high amount of unnecessary collection of items at homes and eventually high amount of trash is created by the excessive materials.

7- Sharing the excessive materials in between team members: *Fig 9.8*

46%

Is a problem.

54%

No problem.

The amount of students face the problem of sharing the excessive materials in between team member are almost the same as do not face any problems. This means that the situation is highly dependent on the team dynamics.

8- Environmental concern: Guilt after trashing the excessive materials.   *Fig 9.9*

No guilt, do not care.

5%

No guilt, recycle the most of them.

12%

Feeling guilty, no time to recycle.

28%

Feeling guilty even if recycled.
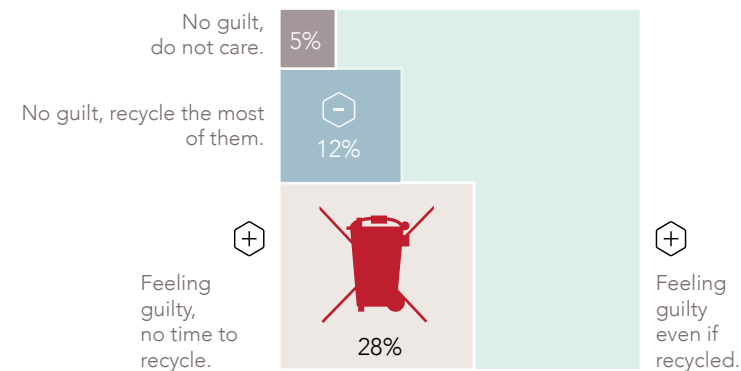
High amount of students are feeling guilty even if they recycle the excessive materials. This means that they are highly aware of environmental concerns.

9- Tendancy to use of **found** excessive materials for mock-ups.   *Fig 9.10*

81%   Usually uses found excessive materials for mock-ups.

Do not use any found materials.   19%
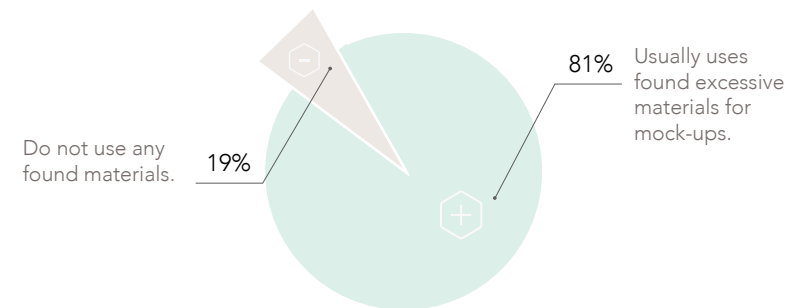
Using found materials for mock-ups is an acquired action by the students. This habit is highly adapted because of the already existing recycling bins in the labs where students can find basic modeling materials already sorted by the material type, but in a messy way.

descriptive research/ Cross Sectional Anlaysis: Sample Survey

10- Problem of finding the necessary excessive material.

Fig 9.11

64%	36%
Is a problem.	No problem.
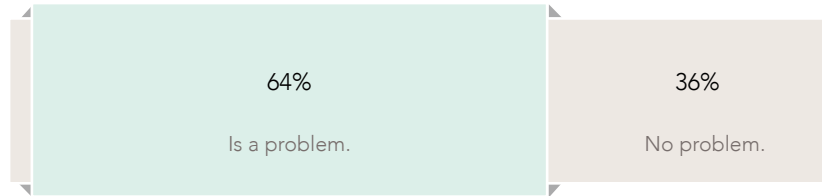
Even if high amount of students tend to use excessive materials for mock-up models but at the same time find it extremely hard to 'hunt' for them. Thus the platfrom will collect the materials in one center and sort them according to type and size to make it easier to see what is available.

11- The afterlife of **models:**

Fig 9.12

Recycle the most of them.

15%

Leave them at the university.   16%   16%   52%   Keep them at home.
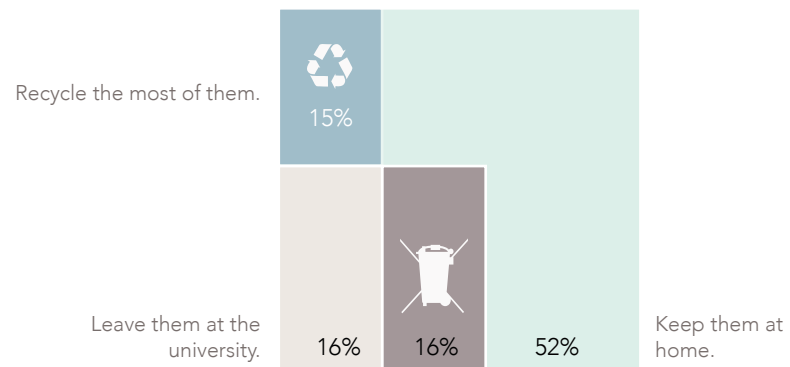
High amount of students tend to keep the models and prototypes at home but at the same time extreme amount of them considers to give them away for disassemble and reuse. This means the students are in need of storing their models and make them useful for other purposes.

12- Tendancy to reuse of **models:**

Fig 9.13

89% Considers reuse and disassembly of models.

Do not consider. 11%
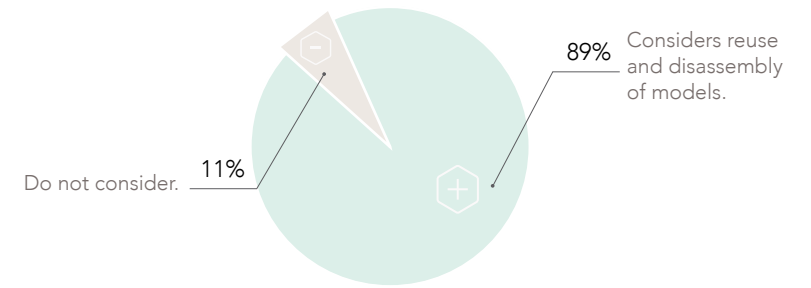
13- Tendancy to donate excessive materials to a platform:

Fig 9.14

63%	35%	2% Respond negatively.
Respond positively.	Maybe, if it is easy to do so.	

Tendency to share the excessive materials is already considerable but also dependent on the ease of access. Thus the service should be accessible and should not be complex.

14- Tendancy to donate **models** to a platform: *Fig 9.15*

50%	33%	17%
Would donate some.	Would donate all.	Would keep them for personal use.
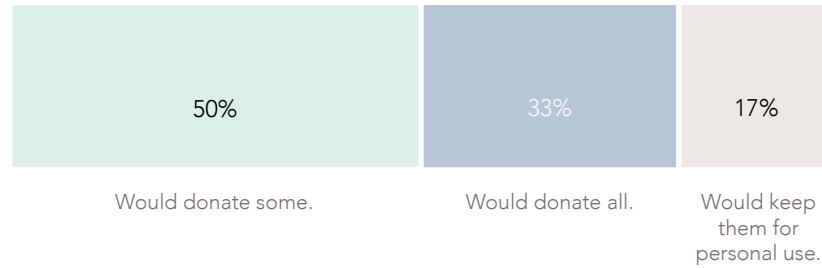
Extremely high number of students are willing to donate their models to a platform for disassembly and reuse. Thus the service should cover this part and organize calls at the end of the semesters for collection. In addition, a small workshop to disassemble them can be held by the students.

15- Interest in crafting, other than assigned projects: *Fig 9.16*

53%	26%	19%
Interested.	Interested but do not want to spend money on that.	Not interested due to lack of time.

A noteworthy amount of students are tend to spend more time of crafting but also complaining about spending money on that. Thus the service will enhance the rate of crafting. Also small interdisciplinary workshops done with the excessive materials will ehnance the interdisciplinary communication and skills.

16- Tendency to buy excessive materials with less than half price: *Fig 9.17*

62% Considers paying the small amount.

Would not pay. 38%
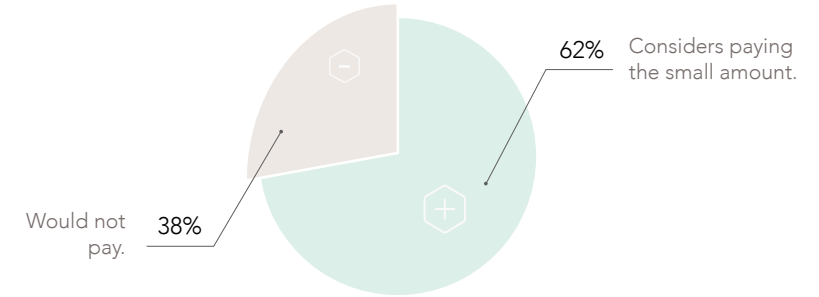
High amount of students are considering to pay for purchasing excessive materials as long as they are cheaper than the half price of the original amount. The price should be adjusted to the amount available and the condition of the materials.

17- Type of access and use of the service: *Fig 9.18*

I can pay a small subscription fee to have access and it will be free to use whatever I want in the collection. (Like 10euro per year)	25%	25%	The amount I donate can predict the amount that I can take. (No money included, like a credit system)
The system should be all-free. People should act respon-sibly and just give & take with trust.	21%	29%	I would like to pay the amount per material I need at the moment.

Interestingly, students divided into 4 groups, almost equally, when it comes to decide the business model of the platform. Half of them think it should not involve any money wehere as half of them are fine with paying a subscription fee or purchasing at the moment. Thus the platform will choose its own way and will run with a money-free, credit based system.

descriptive research/ Cross Sectional Anlaysis: Sample Survey

9.3 EVALUATION OF SURVEY RESULTS

The target group, design and architecture students, showed their interest in the second life of modeling materials and tools in this survey. The participation amount was satisfactory and the given answers were proving that a service, which enables a common share point for excessive materials and models, is actually a need.

Environmental concerns

It is noted that a lot of the participants are highly concerned about the environmental impact of the waste they are producing. Even if most of them are trying to recycle the materials, recycling is not enough to create a big change in the waste management area. The important point is to extend the product life cycle and create waste as less as possible. There is a certain amount of energy is being consumed during the production phase and likewise during the recycling phase. The transportation of the waste to the landfill and the recycling process also has a lot of negative impact on the environmental and economical sustainability.

Current use of excessive materials

After making this survey, it is found out that high amount of the students have already adapted the way of using found (excessive) materials on their own right by using the recycling bins and/or making the effort to go around in between the studios to hunt them. Nevertheless, they are seeking for an easier option. Almost every student complains about the time and budget constraints. According to the survey results the students are already trying to adapt the second hand consumption of excessive materials and models. It is even more favorable if the approach to second life of these materials is quick and free/ low cost.

The tendency towards to use excessive materials and models are mostly for experimenting phase- mock-up models. They look for a more accessible and fair way of making mock-ups and enhancing their creative skills.

Self-storage problem

The survey clearly shows that storage of excessive materials and models is a big problem for students. Even if they think those materials can be useful one day and self-store, they usually ending up as a waste. If those materials would have been shared in time, students can easily benefit from their own 'treasures'. Also after the final presentations the students cannot spare their models as they give big effort and money on them. Many of them are ready to give them away for disassembly or to someone's for another use. The students agree that those excessive materials and models deserve a longer, more useful and more functional life.

The transaction method of the service

The participants show almost an equal division on between different offerings, which leads to an open-end decision. The service will try to motivate to users to donate as well as picking up so a reward system, thus the credit system will be used throughout the service.

As a conclusion depending on the survey results, it can be stated as the students are ready to adapt a service where they can share their excessive materials and models and seeking for an easy way to put this through.

Fig 10.1

descriptive research/ Concluding: Possible Outcome

10 CONCLUDING: POSSIBLE OUTCOME

Possible Solutions About Waste Materials

at Polimi

Classrooms

• Creating collection points on each floor.

• Sorting them according to type and use.

Models

• Disassembling them.

• Using them as a 'scene' for other projects.

• Recycling the waste parts.

• Sorting them according to type and use.
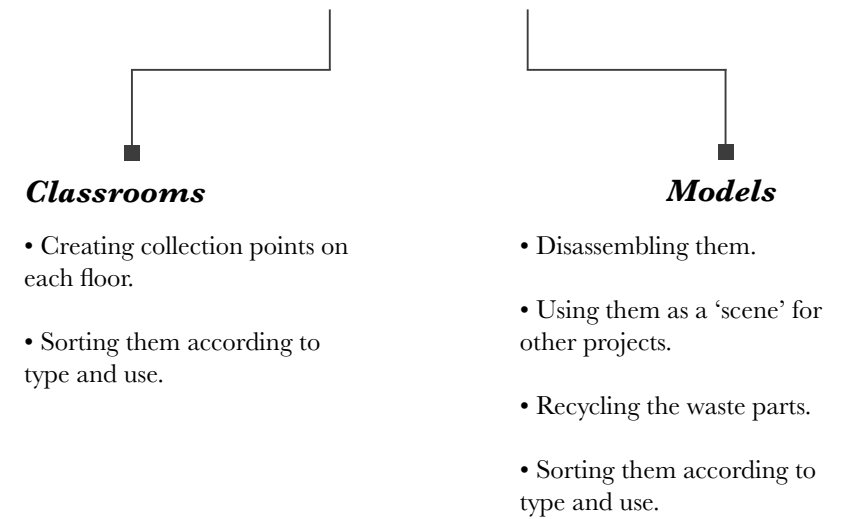
Creating a platform for
collecting, disassembling and sorting
the models and excessive materials
which is accessible and easy to use.

cyc▸e
creative reuse
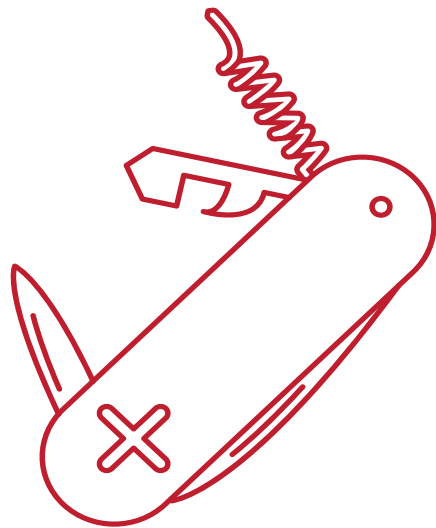
D

DESIGNING THE SERVICE

11. Designing 'Cycle- Creative Reuse'

The service is explained by using fundamental service design tools. By implying service methaphore, system map, offerings, interaction map, storyboard and others the service is tried to be clear and ready for realization. Designing a service requires high observation and emphaty. Being a member of the target group of this service made my job a bit easier to think like an insider. Also to have the chance to talk with the potential users at all times made the designing part really compelling and satisfactory.

designing 'cycle'

11.1 SERVICE METAPHORE

The Art of Clean Up - Life Made Neat and Tidy

Fig 11.1 The Art of Clean Up by Ursus Wehrli- Pine Tree

Fig 11.2 The Art of Clean Up by Ursus Wehrli- Pine Tree

38- "The Art of Clean up by Ursus Wehrli." Zilla Magazine. N.p., n.d. Web. 04 Mar. 2014. <http://
www.zillamag.com/art/the-art-of-clean-up-by-ursus-wehrli/>.

designing 'cycle'/ Service Metaphore

The Art of Clean Up - Life Made Neat and Tidy

Fig 11.3 The Art of Clean Up by Ursus Wehrli- Sand box

Fig 11.4 The Art of Clean Up by Ursus Wehrli- Sandbox

38- "The Art of Clean up by Ursus Wehrli." Zilla Magazine. N.p., n.d. Web. 04 Mar. 2014. <http://www.zillamag.com/art/the-art-of-clean-up-by-ursus-wehrli/>.

designing 'cycle'/ What is it?

11.2 WHAT IS CYCLE?
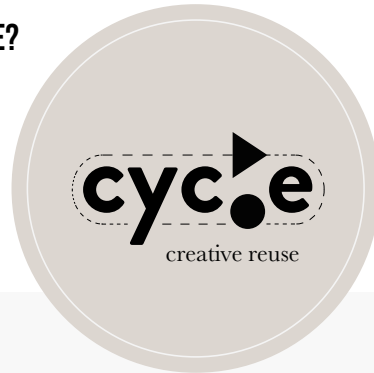
Cycle - Creative Reuse is a non-profit, student run, material up-cycling center in design and architecture faculties.
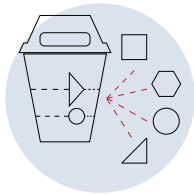
It collects excessive materials and models to sort and disassemble them for future use.
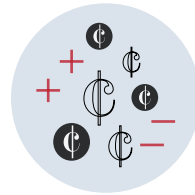
No money involved, the more donation means the more pick up.

Users can check the availability of the materials online, require and reserve them when they are in need.

11.3 HOW IT WORKS?

The service basicly works on the basis of donation and sorting out sytem for excessive materials and models. The students take place as both donator and user. The platform takes care of the sorting out and crediting part.

donator
student

donates materials and supplies

earns credits in proportion to the weight of the donation

gets second hand materials

uses credits to get the second hand materials & supplies

user
student
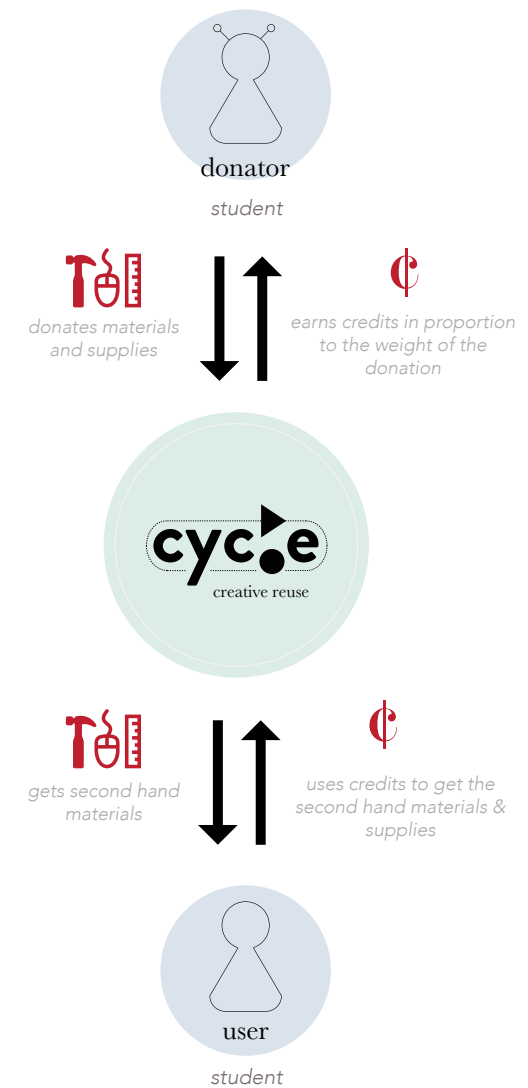
Fig 11.5 Basic working principle of the Cycle.

designing 'cycle'/ how it works?

11.3.1 SERVICE OFFERINGS

Main Offers

1
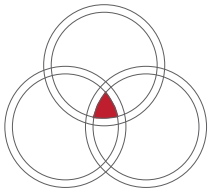
Creating a platform to share the excessive materials & models in between design & architecture students and give them a second life in a fair way.

The main goal of this service is to creating a common point for all the design and architecture students to share their excessive materials and models. This common point will serve to everyone who donates to pick up whatever they want.

2
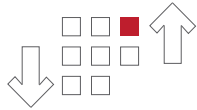
Making the sharing action easy and accessible.

The service will enhance the rate of use of excessive materials as the service will collect, sort and publish the items on the mobile app. When the items are sorted out it will become easier to find out the necessary item. So no time and money will be wasted.

3

Giving a chance to be economical and ecological care-free to design and architecture students.

The service will prevent a lot of waste from ending up in landfills. The importance of this issue is both on ecological and economical side and on a city scale as Politecnico di Milano is the largest university of Milan. Also by the participation of students everyone will contribute to this action on a personal scale which will enhance the sustainable concern.

Side Offers

1

The service will hold interdisciplinary workshops for users.

The service will announce the regular workshops and hold special interdisciplinary ones for the users. The excessive materials will be used during these workshops to learn different techniques and create new objects.

2

Users can announce what they need via mobile app.

Once the users are registered in the service, they can also announce their needs about material. This will evoke the other users to remember what they have in their self storages and improve the share and satisfaction rate.

3

Users can reserve item for 1 day via mobile app.

When the users are away from the university or the physical store is closed the users can browse the items via mobile app and reserve them for one day. This will improve the service satisfaction in basis of reliability and trust.

4

Every 500 Credit will add more %20 of the total.

The credit system does not really matter in the service. The amount of credits collected should not bother the user but it is necessary to have them to keep the track running, to motivate the students to give as well as to take.

5

Users can share the pictures of their models and prototypes via mobile app.

The pictures of models done by excessive materials or in any way, can be shared by the users on their profile page. This will attract and inspire other users about the modeling. All the profiles are public there is no inner private social circles.

designing 'cycle'/ how it works?

11.3.2 STAKEHOLDERS

University
- provides the space & funding.
- provides communication channels for promotion.
- manages the work and salary of the Cycle Angel.
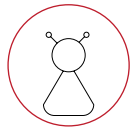
Students
- the donator & the user - 'Cycler'.
- opportunity to become a 'Cycle Angel'.
- donates and picks up materials and model without spending money & time.

Cycle Angel
- hired by university. (in campus student jobs)
- keeps the platform in track; registers the users, collects & sorts the materials and models, gives the credits to users.
- updates the mobile app; the online database.
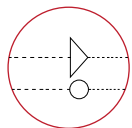
Platform: The Cycle
- managed by students.
- manages the donations and the pysical space.z
- organizes workshops; i.e re-creation, trash art, interdisciplinary works. (fashion-design-jewellery)

Janitors
- help to collect the left over materials and models at the end of every academic year.

11.3.3 TOUCHPOINTS

Main Touchpoints
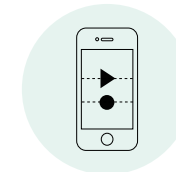
Mobile App
- to check what is available & credits.
- to check your account.
- to reserve items.
- to share model pics and tips about modeling.
- to recieve updates about workshops.
- to calculate credits.

The Physical Space
- to check what is available.
- to leave donations.
- to pick up what is needed.
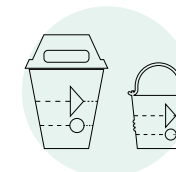
Free Stuff Collection Spots
- located at each floor for dropping off the donations.
- also janitors can collect the excessive materials here.
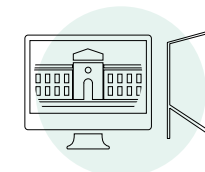
University Channels
- to promote the platform.
- to announce and hold workshops.

In-store Touchpoints
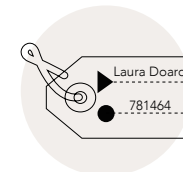
Name Tags
- to label the donation bags.
- can be found on the counter at the store.
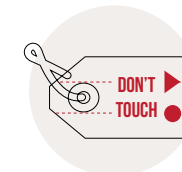
Don't Touch Tags
- to label the donated model if the owner do not want disassembly
- can be found on the counter at the store.
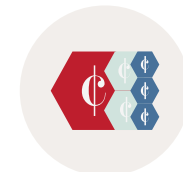
Credit Stickers
- to label the donation bags.
- can be found on the counter at the store.

designing 'cycle'/ how it works?

material flow
information flow
channel flow
credit flow

11.3.4 MAIN STEPS OF THE SERVICE

The main parts of the service are:

0   Free Pick Up - Meeting

The students will meet with the service via promoting channels such as university website, e-mail announcements, course networks. Some items will be collected already by the Cycle Angels ready for pick-up before the service starts to run. When the students see the physical store for the first time, they can pick up anything for free. Unregistered users will be welcomed in this way to the service.

involved actors

students   university   cycle angel

involved touchpoints
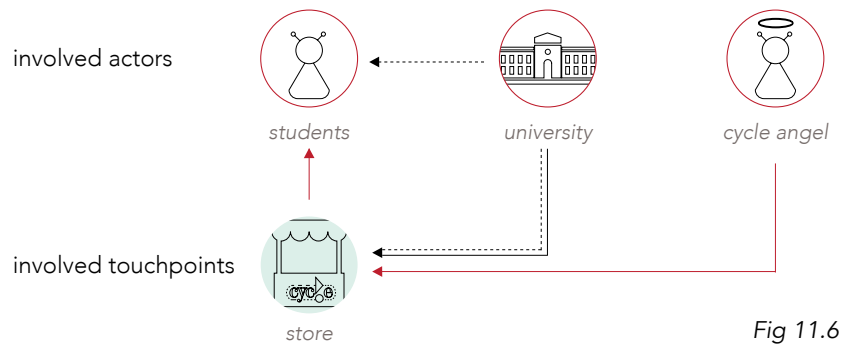
store

Fig 11.6

1   Registration

The registration part is easy. The student only needs to give name, surname and matricola number to the system, either in the store to the Cycle Angel or individually, via mobile app.

involved actors

students   cycle angel

involved touchpoints

mobile app   store
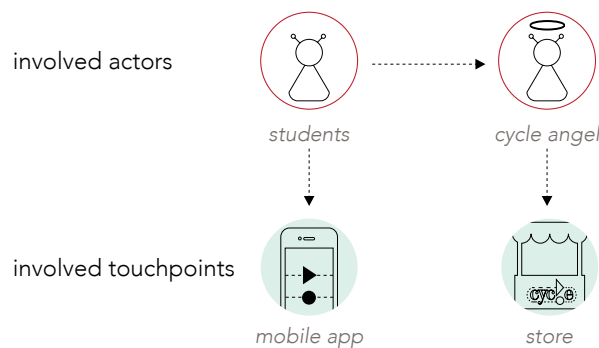
Fig 11.7
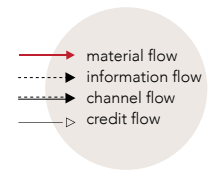
2   Donation

The donation part is tried to be kept as simple as possible. The students will leave their excessive materials and models in a bag, which has a name and matricola tag on it. They can either leave them at the store or on the collection points. The items inside will be credited later by the Cycle Angels. The students can also leave anything they think unvaluable as a free pick up without tagging them. The collection of the materials will be done by Cycle Angels and Janitors at the end of each year during the massive cleaning. If the students are donating their models they can ask for keeping it in the way as it is and put their name on it for future use as in the way it is; otherwise the models will be disassembled into useful seperate pieces.

involved actors

students   cycle angel   janitors

involved touchpoints

store   collection points
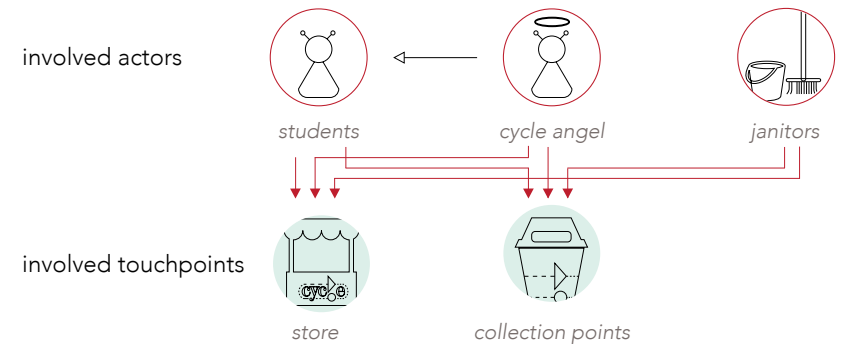
Fig 11.8

3   Choosing

The students have to go to the store or check the mobile app online to find out and choose their requirements. They can also reserve items via mobile application. Another option to find out materials is to check out the collection points for free pick ups.

involved actors

students

involved touchpoints

store   collection points   mobile app
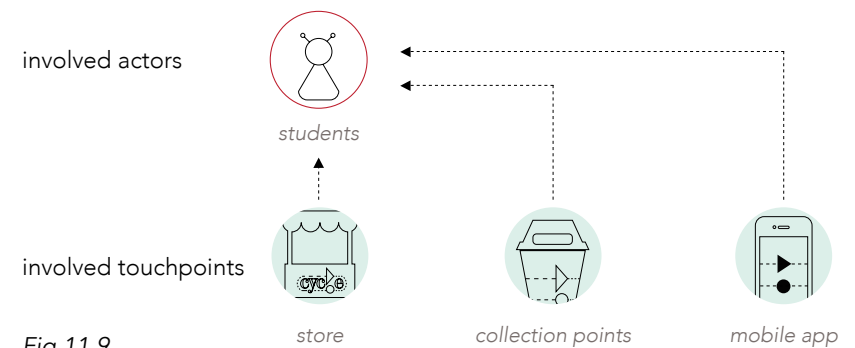
Fig 11.9

designing 'cycle'/ how it works?

4 Picking Up

The students have to go to the store to pick up the items. The amount of the credits they 'spent' will be subtracted from their account by the Cycle Angel. They can pick up the free items in the collections points or in the store without any credits.

involved actors

students   cycle angel

involved touchpoints
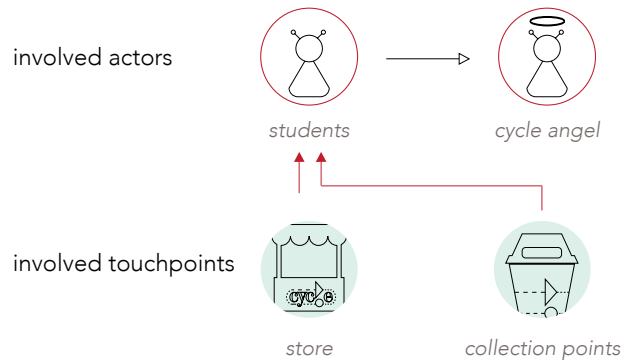
store   collection points   *Fig 11.10*

5 Post Experience

The students can share their models, modeling tips, upcycling ideas and modeling skills via mobile application.

involved actors

students

involved touchpoints
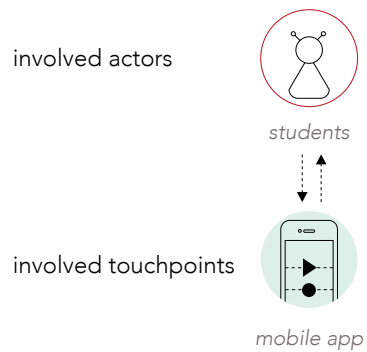
mobile app   *Fig 11.11*

11.3.5 SYSTEM ANALYSIS

	Free Pick Up - Meeting (0)	Registration (1)	Donation (2)	Choosing (3)	Picking Up (4)	Post Experience (5)
Actors						
students	●	●	●	●	●	●
cycle angel	●	●	●		●	
university	●					
janitors			●			
Main Touchpoints						
mobile app		●		●		●
store	●	●	●	●	●	
collection points			●	●	●	
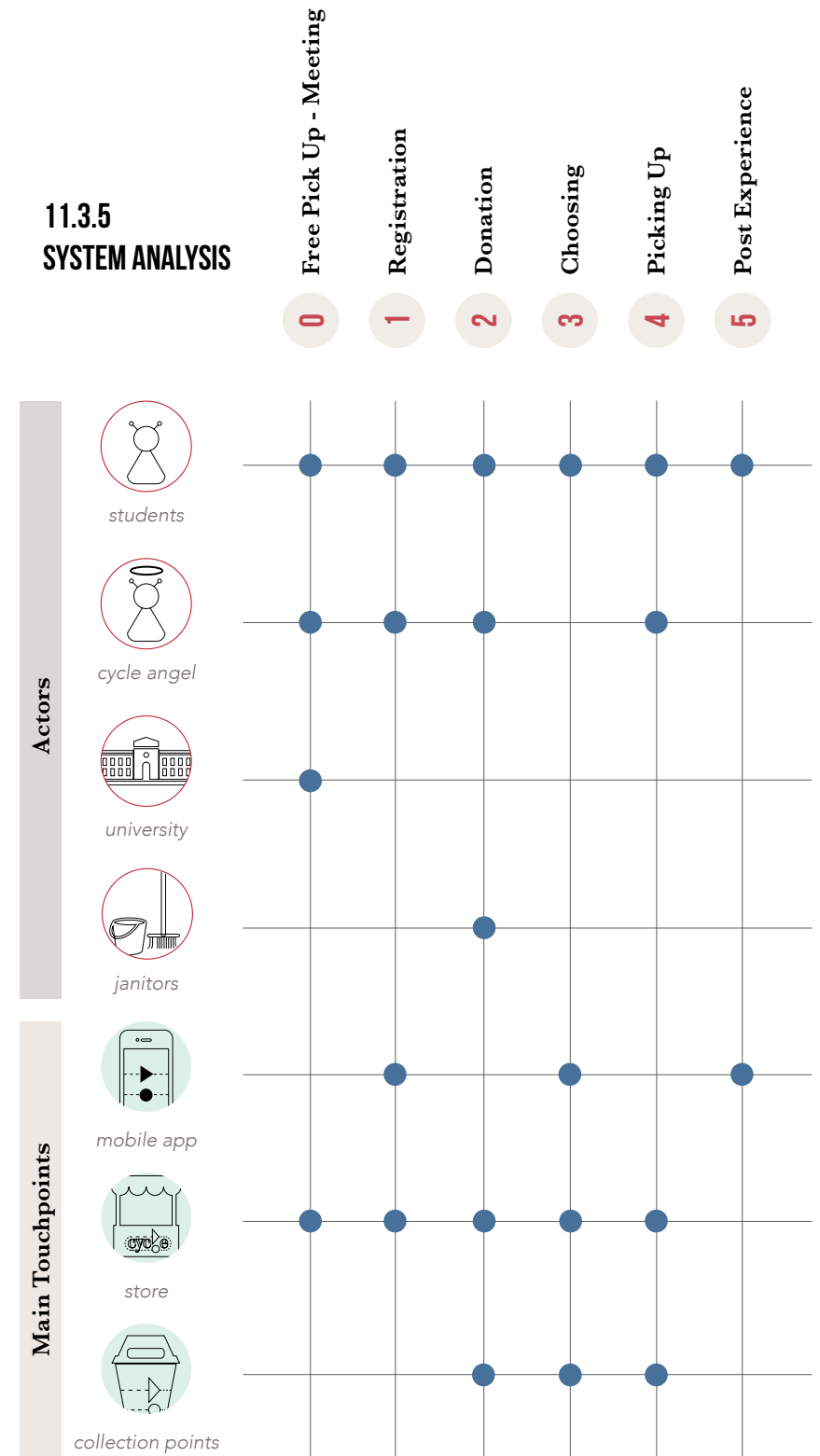
Fig 11.12 System analysis map.

designing 'cycle'/ how it works?

11.3.6 INTERACTION MAP
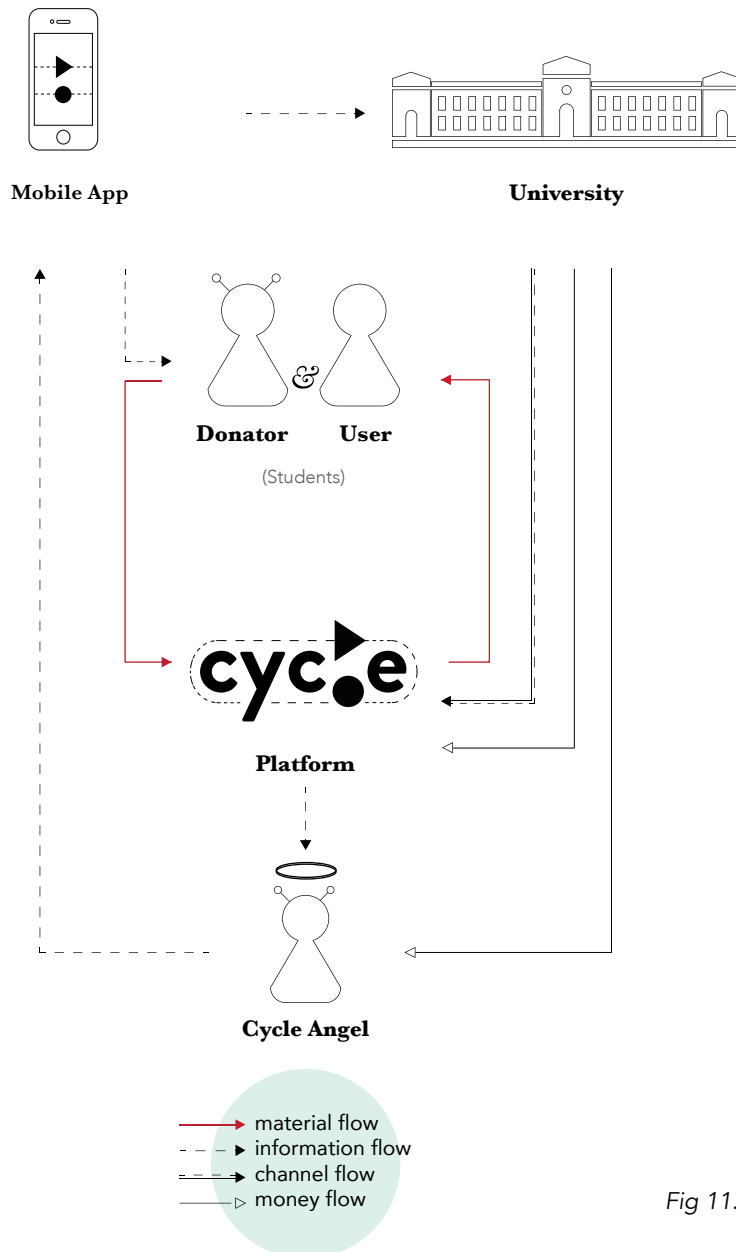
Fig 11.13

The university acts as a director, behind the scenes in this service. It both offers the space and jobs to students run this platform. It also promotes the use of the service. The benefits of the university are; to save a lot of waste from the land-fills and to save students' money. Providing a space will not cost anything and the student can be hired under student working programs such as 150 ore in Politecnico di Milano. The service will be maintained by two students working in shifts and a general manager from the university administration to do the paperwork about the regulations about the university. For example when it is time to hold an interdisciplinary workshop someone from the administrative level is needed.

The Cycle Angel is the main actor in this service. They take care of the bags full of materials donated by the students and sort them out in the store. They keep the mobile app neat and tidy as well as the store. This means they have to upload the pictures of the new incoming items and simply upload them to the mobile app database. In the same manner, they will remove the items when they are taken away. The Cycle Angle is free to use initiative when it comes to what to upload on the mobile app. The very scrap materials, the common materials which can be found all the time and the free stuff area may not be uploaded.

The students are the supporting actors whose make the service meaningful, resourceful and functional. They are also the ones who will get a benefit from this service. To obtain a balance in between donations and pick-ups the credit system is invented. To motivate the students to donate as much as they pick up is vital for the service to keep it running. The students must pay attention to organize their excessive materials and models and generate self-awareness to share them with others.

The mobile app will inform the students about the updates about the material availability. The students can also share tips about model making and upcycling ideas. The mobile app will also notify the students about upcoming workshops. Students can also share the pictures of their models and prototypes and share via mobile app. The data access of the mobile app is also given to the university where they can create a inner database of student works and the saved waste.

designing 'cycle'/ how it works?

11.3.7 STORYBOARD

Existing Problem

Lab Workers   Janitors   Students

So many useful material are left in the classrooms, corridors and labs.

Existing Problem
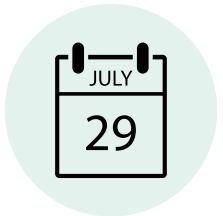
Year-end   The material trash is two giant truckloads annually.

So many useful material goes into trash in the end of semesters.

Get to Know

Flyers   Collections Points

Students see the flyers and the collection points around the school.

Get to Know

Pick-up anything you want.   Registration online or on the spot.

First pick-up is free, then the service requires registration with name & id number.

Fig 11.14

Drop-off & Collection
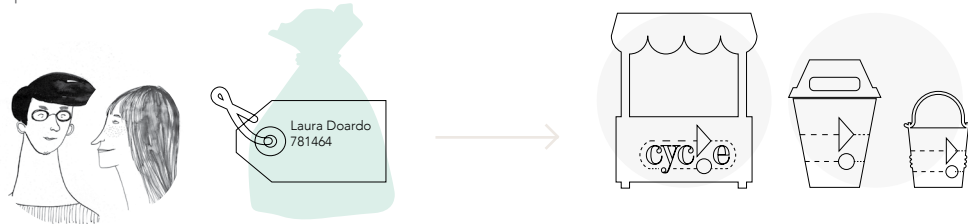
Collect your items and write your name & id number.

Drop them off to the physical space or collection points on every floor.

Your donations will be credited and the more you donate, the more you can pick-up!

Sorting-out & Credits

They will sort your materials, dismantle your models and credit the items.

They will add your credits to your account and publish the new items on the mobile app.

The Cycle-Angels are students who are working for *150 hours* program and getting paid by Politecnico.

Sorting-out & Credits

The materials bigger than 200cm2 or closed packs will be credited, valued.

Free stuff. (used papers, small pieces)

The items will be credited by the Cycle-Angels according to their size and market value.

Online Services

Check your credits and what is available.

You can reserve items for 1 day.

With the mobile app you can register, check your account, check what is available, share the available items and reserve items.

Online Services

Get updated with upcycling ideas.

Subscribe to workshops.

Website will give insights about upcycling and The Cycle-Angels will arrange multidisciplinary workshops according to the availability of upcycled materials.

Fig 11.15

designing 'cycle'/ how it works?

11.3.8 FRONT OFFICE & BACK OFFICE INTERACTION

The most important actor of this service is the Cycle Angel who needs to take care of the management in every step both in front and back office.

The mobile app is a secondary tool which makes the service quick and easy to access and find out the items which makes it vital for the user.

	1 Registration	**2** Donation	**3** Choosing	**4** Picking Up	**5** Post Experience
Donator & User *students*	- Log-in with the name, surname & matricola. (Online or physical)	- Leaves the items in a bag with the name and matricola on it to store. - Leaves free items on the collection points.	- Checks the store, app and the collection points. - Can reserve items.	- Picks them up from the store.	- Shares modeling tips, upcycling ideas, models, and modeling skills via app on personal profile.
Manager *cycle angel*	- Recieves the physical registration.	- Collects the bags.	- Helps the student to find out items and informs them about the credit values.	- Communicates with the students.	
Administrator *cycle angel*	- Updates the database for the physical log-in.	- Sorts the items out and places them in the dedicated areas & updates the database. - Gives the credits to users.	- Designates the reserved items.	- Takes out the items from the database. - Deducts the credits of users.	- Manages and announces the interdisciplinary workshops.
Server *app & online database*	- Registers new data in database. (Adds the additional info about students via University database.)	- Registers new data in the database. (Updates the lists with the new incoming materials.)	- Registers new data in the database. (Shows the reserved items with the user name.)	- Registers new data in the database. (Removes the item taken away.)	- Registers new data in the database. (Updates the personal pages & news section.)

Front Office

Back Office

Fig 11.16

designing 'cycle'/ how it works?

11.3.9 CREDIT SYSTEM, VALUATION

The credit system stands for a fair amount of use of the service for students. The main aim of this way of structuring the service is to maintain useful materials all the times. It is both for motivating the students to donate and control the amoun of pick-ups.

The value of the credits will be color coded and divided into 4 different levels. Red, blue, green and free.

Value rate: 1 red coin = 2 green coins = 3 blue coin
1R = 2G = 3B

The red credit is symbolizing the most 'expensive items'. The value of this items will be decided according to the size and the condition of the materials and models. If the materials are hardly used or not even used they will be given the red tags. For instance if the size of the donates materials is bigger than 500 cm2 they will surely get this rate. Also all the models donated marked as 'Don't touch' will be valued as red, respecting the effort spent on the model.

The green credit is symbolizing the intermediate level materials. If the material is semi used, like a half tube of paint or half size of a foam board they will be given the blue tags. Disassembled useful parts of the models may take this value. Also items like rubbers, pens and pencils which are still functional but common will have this rate.

The blue credit is the 'cheapest' value given to the materials. These can be cheap and most common materials such as cardboards and colored papers. Also the materials used more than half will be rated in this category such as a 1/3 of a spray can.

FREE Free materials will be placed in the front or outside of the store where will be a free access even if the store is closed. The order of the area will be under control of both students and cycle angel. The area will be divided into some material types with labeled containers to organize. Also the free stuff collection point on every floor will be collected here at the end.

When a student donates anything in a package, not even used, will earn a red credit which she can get 2 pen or a used but clean brush and a half tube of paint in return. Or the student can take 3 items from the green credited ones.

At the same time a student can donate 2 pens or a half foamboard and a frayed ruler, he/she can take a brand new paint tube.
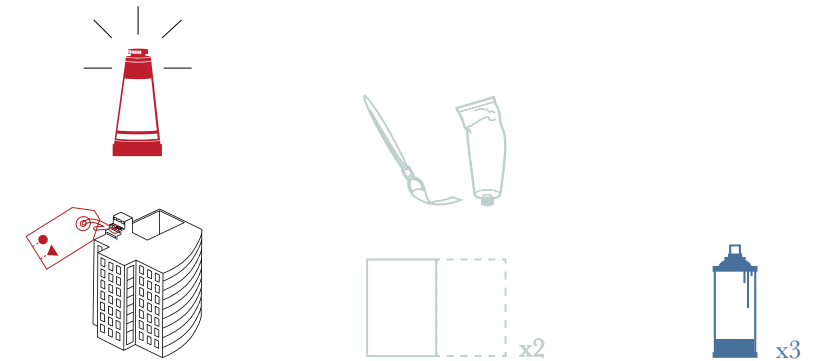
-Brand new items.

-'Don't Touch' models.

-Size bigger than 500 cm2.

-Items that in a really good condition and quality.

-Semi-used items.

-Common tools.

-Useful model pieces.

-Cheap and common items.

-Materials used more than the half.

FREE -Scrap materials and small pieces.
-Materials left in the store more than 3 months.
-Papers and cardboards mainly.

Fig 11.17

designing 'cycle'

11.4 SERVICE BENEFITS

donator

cyc▶**e**
creative reuse

user

DONATOR
benefits

(students)

gets rid of excessive
materials, no mess, no trash

earns credits for future
investment

enhances social satisfaction

PLATFORM
benefits

**creates a community
around sharing**

**enhances product
life-cycle, reduces waste
ending up in landfills**

**creates jobs for students
(the cycle angel)**

USER
benefits

(students)

saves students money

saves students' time; easy access via
mobile & deparment building

enhances creativity; the
excessive materials may bring out new
ideas and enhance 3D thinking.

Fig 11.18

designing 'cycle'

11.5 BUSINESS MODEL CANVAS

The business model of this service is based on non-profit collaborative economy, thus there is no money flow but public interest. Also it creates jobs for students.

If the service scales up and goes outside from the university the items will be sold with money to overcome the rent of the space and salaries of the workers. In that case local municipalities will be added as partner as there is a big impact on waste management thanks to this service and an opportunity to facilitate jobs for community.

KEY PARTNERS

University

Students

Janitors

KEY ACTIVITIES
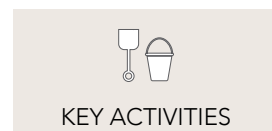
Material and model collection, disassembly and sorting out.

Online updates about the collection

KEY RESOURCES

Students' self storages

Classrooms

Labs

VALUE PROPOSITION

A common and organized share point for excessive materials and models for the use of design and architecture students.

CUSTOMER REL.

Membership community.

Sharing and participation between peers.

Rapid updates & info.

CUSTOMER SEG.

Design and architecture students.

CHANNELS

Word of mouth.

Social media accounts.

Online university channels.

The visible location.

COST STRUCTURE

Server, Mobile app, communication material printing, space, salary of the employee; the Cycle Angel. (Will be paid by the university.)

REVENUE STREAMS
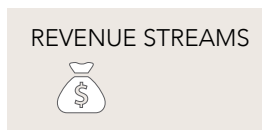
Non-profit structure, based on credit system.

Public interest.

Fig 11.19

designing 'cycle'

11.6 SPACE ALLOCATION

The interior design consists of 3 layers.

1- Welcome & Donation desk on the entrance

This area acts both inwards and outwards. On the outside it has a counter and below the counter there are some hooks placed for users to hang their donation bags. On the counter the users can find the tags they need to put on their bags and/or models.

Inside, the counter has a table below for the use of Cycle Angel. They can store their own items and the computer dedicated to the system will be placed to keep the database running in track.

2- Storage area

The storage area is dedicated for the organization of excessive materials. The modular and movable furniture can be organized in the way for the current need.

The materials will be sorted in an appealing way to find them out easily. They will be divided according to their type and size. The sections will cover different types of paper, wood sticks, wooden panels, laser cut outs, pens, rulers, ropes, textiles, small pieces etc. The credit stickers will be sticked on each item.

3- Free zone

Free items will be placed on the outside area, where people can reach them even if the store is closed. Also the free stuff collection bins will end up here, the organization of this space will be done collaboratively by the cycle angels and the students otherwise the space will become so much messy.

Free items will not have any sticker or any label so it is open for use of anyone in the university. Students can simply put their items in this area without contacting the cycle angel. Also the cycle angel can decide to place some items here after checking the donation bags according to the size and quality.

Welcome &
Donation Desk

Storage area

Free zone

436 cm

200 cm

600 cm

236 cm
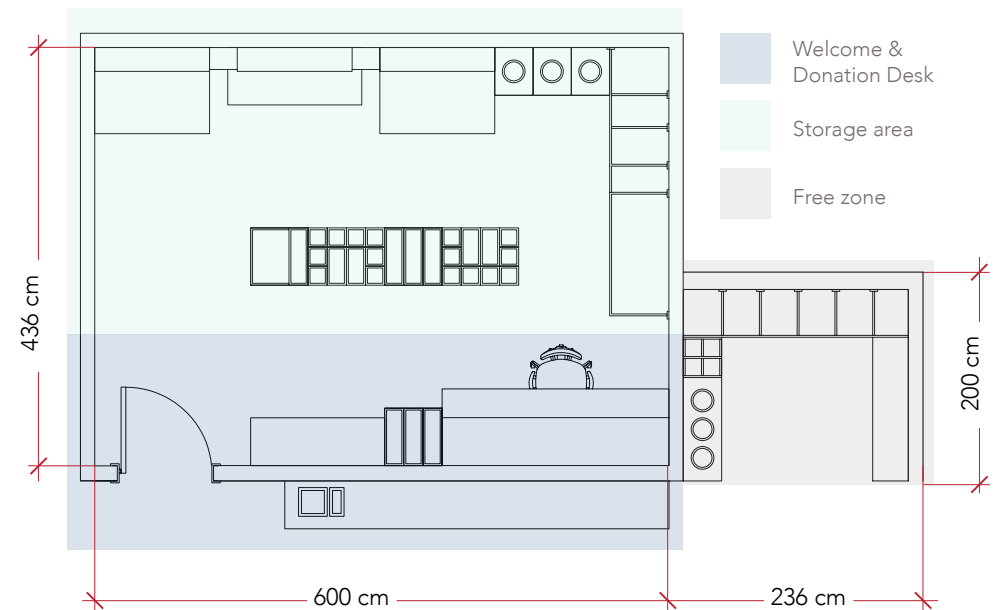
This space is drawn according to Politecnico di Milano, Campus Bovisa, Building N, Floor 1, on the spot of 'Svolta Studenti' area.

This spot has chosen due to the fact that accesibility is essential for this service.

This floor hosts a lot of studios for design and interior architecture where model and prototypes are highly manufactured. The service mainly focuses on the pre-mock ups, first design trials. It aims to trigger the attitude to start designing by working in three dimensional scale. As many simple prototypes are done in classrooms; where as the final outcome in the labs, this location is more favorable for the students.

Also it is close to student lockers where they store their excessive materials and personal items annually.

Fig 11.20

designing 'cycle'/ Space Allocation

Metal drawer cabinets

Wooden pin boards: Hanged items

Wooden modules: Small size tools & materials & books

Metal bars: Big size materials

Metal bars: Cardboard area

Metal shelves

Bench

Credit stickers cases

Tags for user donations

Transparent plastic bags sorted by type of material
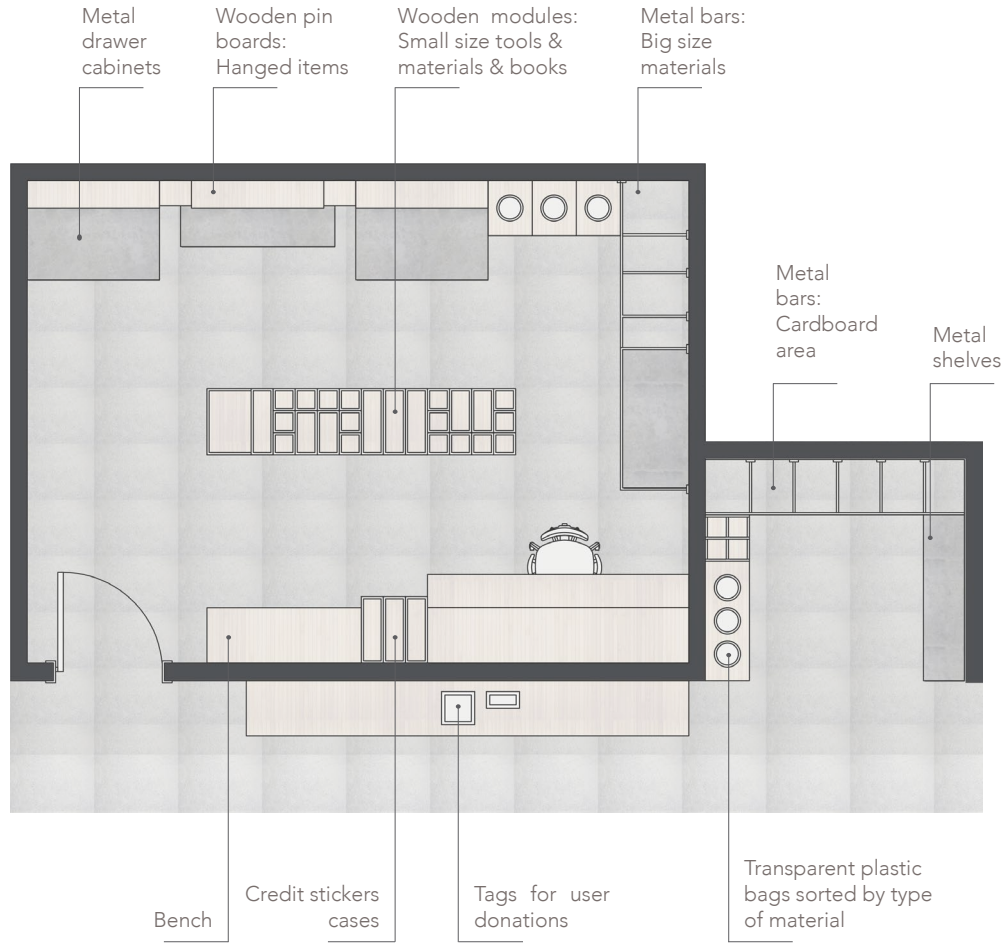
This space is drawn considering Politecnico di Milano, Campus Bovisa, Building N, Floor 1, on the spot of 'Svolta Studenti' area.

Store

Free zone

Hooks for user donations.

Cardboard area

Shelves

Wooden pin boards: Hanged items

Focal spot lighting

Metal shelves

Metal drawer cabinets

Wooden modules: Small size tools & materials & books

Transparent plastic bags sorted by type of material

Fig 11.21

Fig 11.22

designing 'cycle'

11.7 MOBILE APPLICATION

The main function of the application is to see what is available on the service and reserve the needed item for one day.

Side functions of the app are:

- To see and get notified about the workshops offered by the university.

- To see and get notified about the interdisciplinary or skill improvement workshops offered by the service.

- To check the credits on the users account and simply calculate what is the value of the item that they have by answering simple questions like size and condition of the item.

  The credit page is quite playful that a user can drag the credit coins and create shapes with them. This function aims to clarify to measure the value difference in between each color coded value coins.

- To add items needed on the wishlist and see others. This function stands for to remind the users what they have but did not remember to share. Also it aims to create a social bond between users.

- To share tips about model making and upcycling ideas between users.

- To see the activity, donations, pick-ups, wishes, shared ideas and model pictures of the users.

The application aims to create a social community around sharing excessive materials and models inside the university around needs, demands and personal skills.
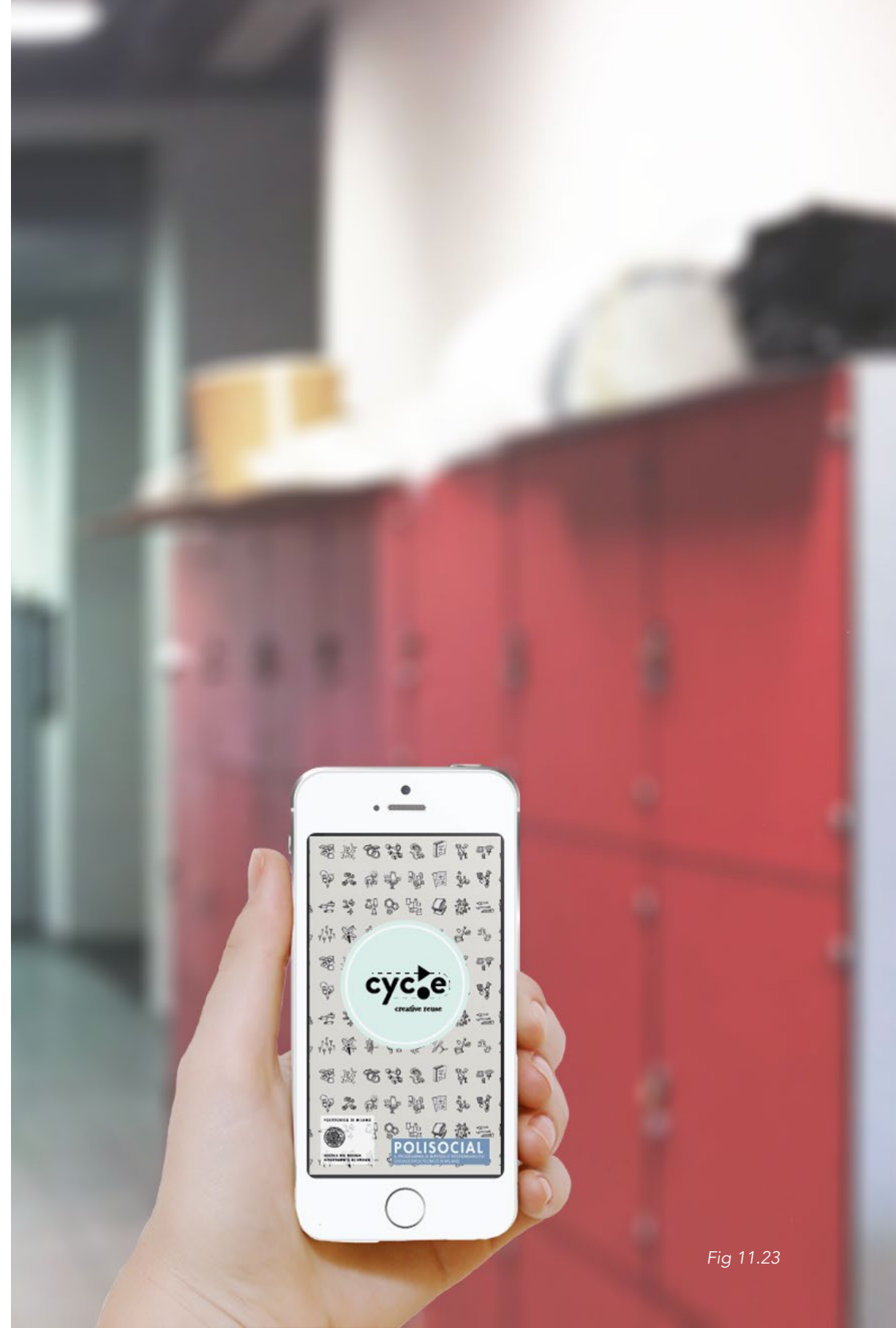
Fig 11.23

designing 'cycle' / **Mobile Application**

Fig 11.24

Login

Login and registration page.
Login is as simple as to login to any university channel such as wifi, and once logged in the app will be maintained unless the user logs-out.
Registration has almost the same steps plus asks for a personal e-mail address.

Last update

Item image

Reserve button
Item type
Item value

Home page
button

News page
button

Credits page button

Search and sort
slide button

Picture button
to share pics of
models on the
profile page

Profile page
button

Wishlists page
button

Wishlists page button
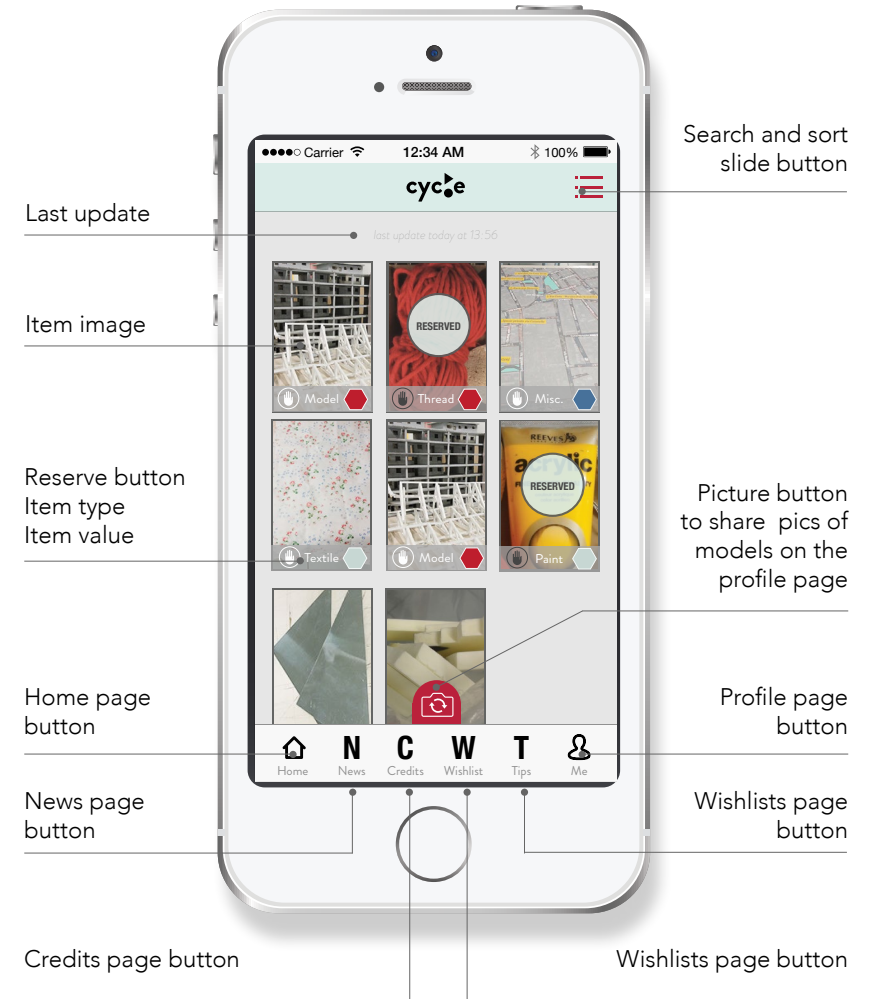
Fig 11.25

Homepage

The default view shows the items according to the date added. The home page is designed to according to the main function of the application which is to see and reserve what is available on the service.

designing 'cycle' / **Mobile Application**

Fig 11.26
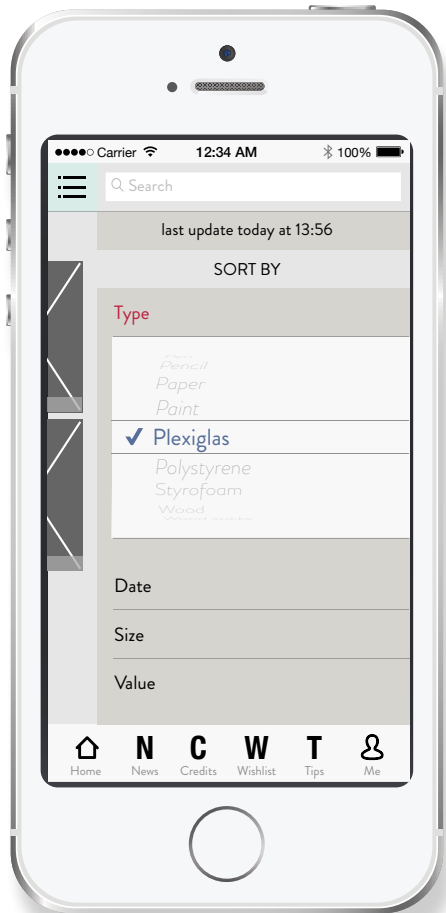
Fig 11.27

Fig 11.28

Fig 11.29

Search

The search page functions as a sliding frame to make it handy to find the needed item in a quick way. It has divisions like sort by type, date added, size of the material and value of the item.
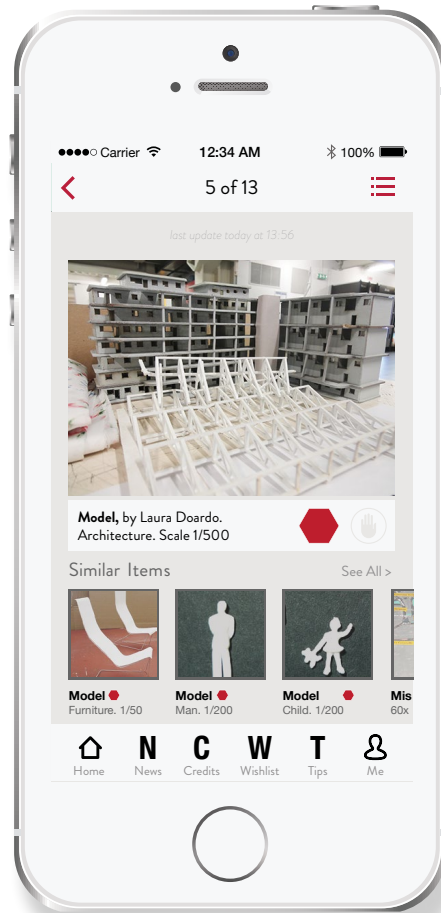
Item Page

Item page stands for to see detailed information about the donations. The user can see the previous owner, scale, size and the value of the items. The user can also reserve items on this page. Also similar items are listed on this page to make the search more intuitive.
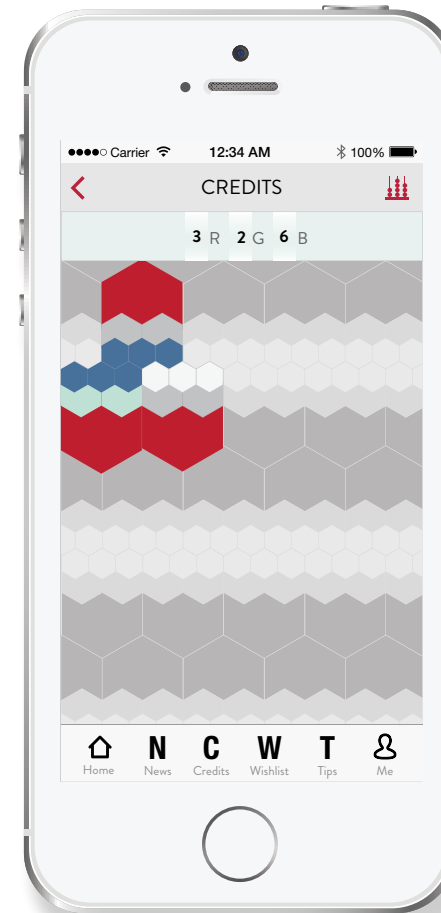
Credit Page

The credit page functions for to see the users own account and get to know about the crediting system. The user can drag the hexagons and create new shapes and understand the value differentiation between items. Also the user can calculate the item value and get a deeper information about credit system.
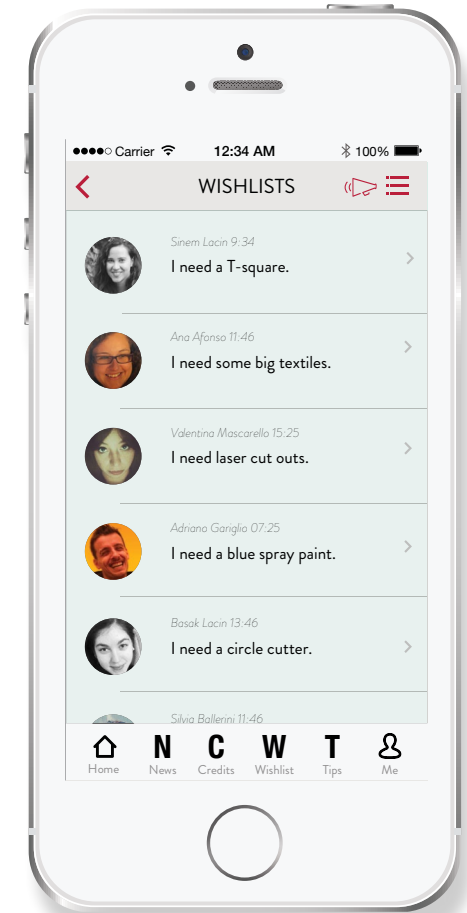
Wishlist Page

The user can announce their needs and see others. This page aims to remind people about what they have and what can they share. This page serves to the social aspect of the service. The announcements can be sorted according to the need as well.

designing 'cycle'

11.8 BRAND IDENTITY

Logo

460 px

460 px
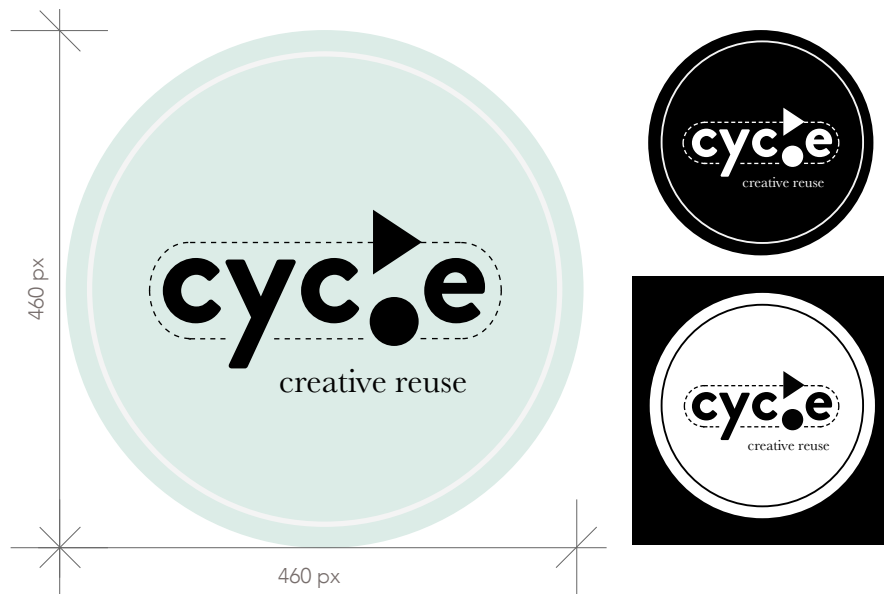
The logo design implies the path of the items shared inside service in between users. Giving a second life, upcycling them and changing the way they were before symbolized on the transformation of a triangle to a circle or vice versa.

Other logo colors

Colors

C:70 M:50 Y:30 K:100

C:24 M:20 Y:20 K:6

C:14 M:100 Y:90 K:10

C:15 M:11 Y:14 K:0

C:13 M:1 Y:9 K:0

C:13 M:12 Y:15 K:0

C:70 M:40 Y:10 K:20

C:9 M:6 Y:7 K:0

C:0 M:0 Y:0 K:78

C:3 M:2 Y:2 K:0

Typefaces

Brandon Grotesque Regular   abcdefghijklmnopqrstuvwxyz 1234567890

Brandon Grotesque Thin Italic   *abcdefghijklmnopqrstuvwxyz 1234567890*

Helvetica Neue Bold   **abcdefghijklmnopqrstuvwxyz 1234567890**

Helvetica Neue Condensed Bold   **ABCDEFGHIJKLMNOPRSTUVWXYZ 1234567890**

designing 'cycle'/ Brand Identity

Credit Value Stickers

0.5 cm

0.5 cm
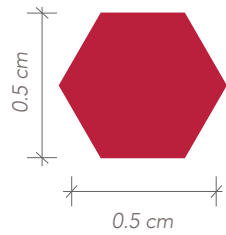
The stickers will be placed on each item to distguish the credit value of them.
The color coding will make the understanding easier. As the items sorted out in the store by material and function, the value of them will be noted out with these small indicators.

Other logo colors

Green   Blue
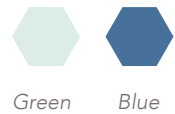
Free Stuff Collection Bin Stickers
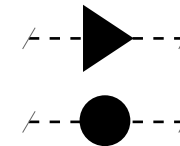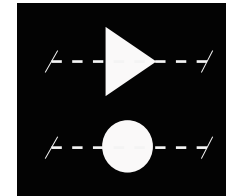
These stickers will be placed on the collection points.

It is the abstraction of the original logo used in black and white colors.

These stickers will attract people on each floor and motivate the user to leave their items in an easy way.
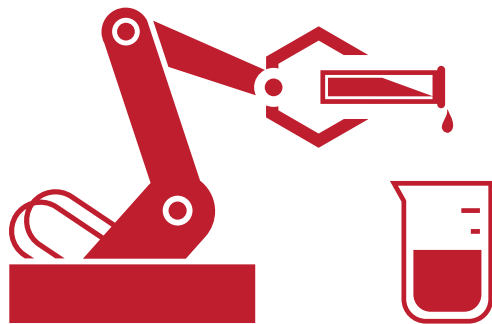
E

EMPIRICAL RESEARCH

12. Prototyping Session

The service has prototyped during the workshop course of Davide Fassi called Temporary Urban Design. The duration of the workshop is one week. As a product of the workshop the event Il Sabato della Bovisa is being created. The prototype of this service held during this workshop to serve the students taking the course. The materials are collected after the end of first semester where a lot of trash is generated. The materials collected before and during the workshop from students.

12.1 STRUCTURING THE PROTOTYPE

TThe main idea behind the prototype structure is to collect materials from PSSD Innovation Studio to serve the students of the elective course Temporary Urban Solutions Workshop. Most of the students are common in both classes so the interest in the service can be measured in all stages as promoting, collection, redistributing and having feedbacks.

The main reason to collect excessive materials and models from PSSD Innovation Studios depends on the fact that during this course a lot of prototypes have been made where great amount and variety of materials and mock-ups go excessive usually.

Another reason to refer to the PSSD Innovation Studios is about the timing; as they were close to the end of the semester they were ready to think about the next step of their excessive materials and models. They were in the moment of frustration about cleaning up the studios before the semester break. Also they are more familiar with the idea of prototyping a service as well as a product.

Temporary Urban Solutions Workshop is an elective course in English, which takes a week of work to create a real event as an outcome. Thus there is a big timing and budget issue: they will need a lot of materials with low budget to create a real project. Each outcome form each team has their own properties and very different from each other which leads a large variety of materials are needed. It hosts students from different backgrounds and nationalities likewise PSSD Innovation Studio.

Therefore these two courses seemed like a perfect match as they both involve large variety of materials, students from different backgrounds & nationalities and tendency to prototype. They also match on the timeline and the student group.

Fig 12.1

prototyping session/ Pre-prototyping Phase

A corridor, seeming ordinary.
We pass by everyday, full of our stuff and do not take
back usually.

These left overs can be really helpful for someone
else. Their duty is not done yet. One man's waste
may be another man's treasure.

Fig 12.2

Fig 12.3

Fig 12.4

designing 'cycle'/ Prototyping Session

12.2 PRE-PROTOTYPING PHASE

Introducing the Service

An announcement made to the PSSD Innovation Studio students, before the exchange programme lecture, where almost everyone was in the classroom. It is prevised them not to trash their excessive materials and mock-ups. The related poster is attached to the main door of CT.42. Even on the first call there was some students interested in the topic and come later to ask more questions and shared their enthusiasm. 14.01.2014)

After having the interview with Matteo Dall'Amico from Lab Modelli, a space inside the lab is provided to store the collected items. (18.02.2014)

On the day of the exam, the studio is visited again to see the materials around have a small talk with the students about the need and use of materials in the classrooms. The tendency to go to the labs for prototyping is highly dependent on the skills and the material chosen. The students claimed that the recycling bins are quite useful to find useful materials. However, those kind of found materials are used for first mock-ups more than the final model. Plus, usually the first mock-ups are done in the classroom environment where they do not tend to go downstairs and it becomes a burden to search for useful excessive materials. Also they claimed that it is not that easy to find what they are looking for in a short time.

After having the space and the motivation from the students the collection phase was ready to start. (20.02.2014)

A view from PSSD Innovation Studio

Fig 12. 5

designing 'cycle'/ Prototyping Session

Communication and Collection

The announcements and the information about the prototype started to be posted on Facebook to the individual studio groups by the help of friends who are taking different studios like interior architecture and PSSD. *(24.02.2014)*

The flyers started to be distributed on the -1 floor and +1 floor where most of the students were dealing with models. *(26.02.2014)*

Two kinds of flyers are designed. First one is handmade and made by collecting pizza place flyers left around and 'hacked' to announce about the service. It contained the main information to call the 'drop off'. Second one is digitally prepared and printed only 10. It contained a note on that to bring it back when seen and invited to visit the collection table. As the flyers are given in person the further information is provided in conversation.

The collections have started on the table positioned on the -1 floor where there is a lot of traffic in between the study area, labs and printing shop. People passing by were highly interested in the activity going on asking further questions about the service. It was a little pity to tell them it was just a proto-type and end in 2 weeks. The first items donated were two pieces of metal in triangle shape. *(26.02.2014)*

The collection continued on the +1 floor, as there were more students on those days. The table was positioned on the corridor, in between the staircase and the bathroom area. The attention was high but the donations were lower than previous. Most of the students left the campus for the semester break so the collection went on pause.

Flyers attached on the doors.

Fig 12.6

designing 'cycle'/ Prototyping Session

The cycle desk placed in front of the Poliprint where there is a lot of traffic during modeling periods as it is between the print shop and model labs.

Fig 12.7

Fig 12.8

designing 'cycle'/ Prototyping Session

It is decided spontaneously to 'hunt' for the left overs from the classroooms where students left a lot of materials after their project submissions.

The classrooms have scanned and all the materials left but still useful are carried to the classroom where workshop is going to be hold, CT 51 and it is started to organize them for the workshop on the next week.

Some of the models are disassembled and they became ready to serve for a different cause to different students.

Fig 12.9 Disassembling Models- Before
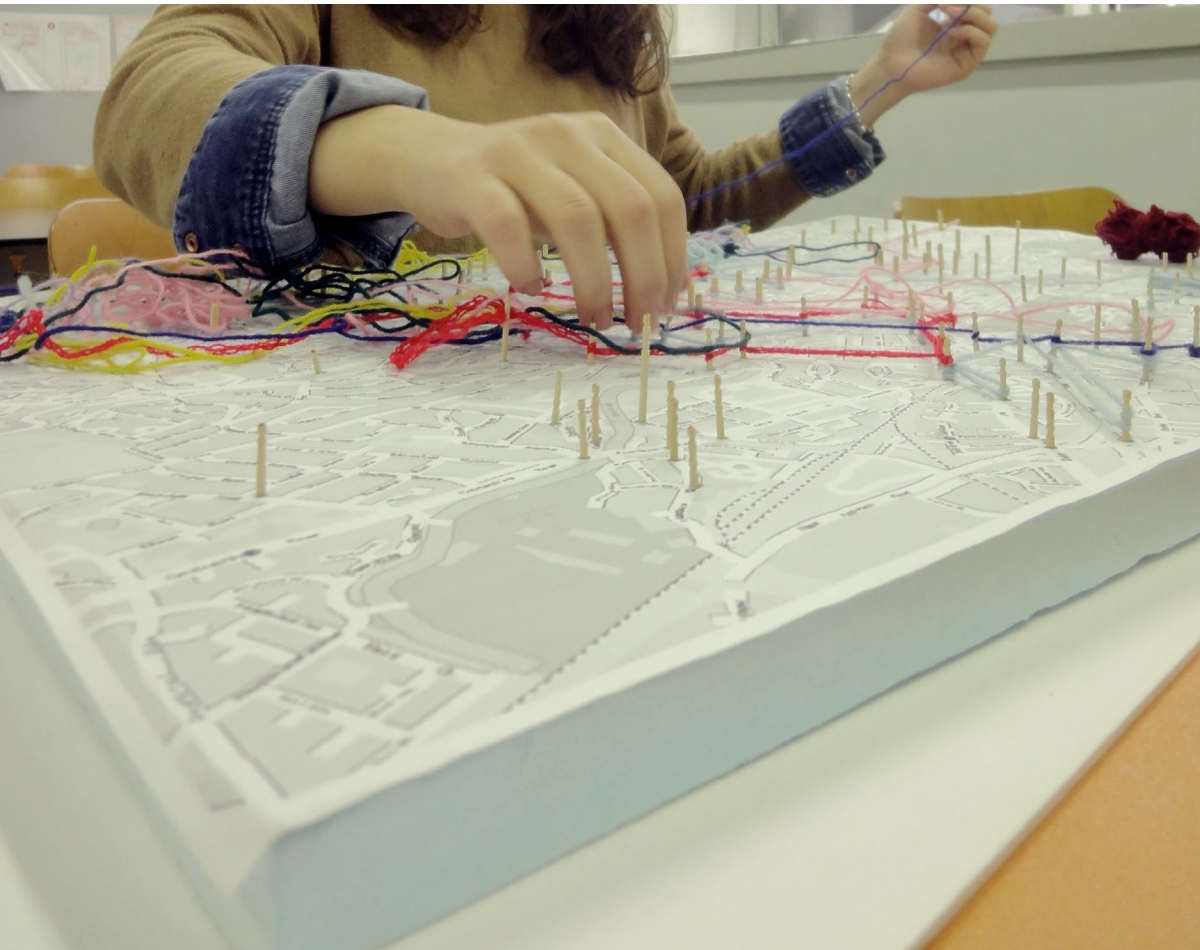
Fig12.10 Disassembling Models- After

Fig 12.11

12.3 OBSERVATIONS FROM THE PRE- PROTOTYPING PHASE

- Timing is important. The ending of a semester seems too much hectic and people are so much focused on the exams are more self-involved but at the same time it is the time the most excessive materials emerge. From the feedbacks the best timing seems like around June & July - the year ending time.

- People seems interested about to idea with the small chats but they usually say they have a lot of stuff at home and maybe will bring them some day. And some reads the poster and feels guilty and says 'sorry but we cant help you, good luck', which at least makes you stay positive.

- The first two days as spent more question-answer like 'but what are you doing here? is this real?' and also so many curious looks without a word.

- When students are informed by talking with them directly, they are more into donating their excessive materials. So it is essential to communicate with people as much as possible when starting a service like this, putting up flyers and placing the table right in the middle of corridors are not enough. Maybe afterwards if the service survives and becomes more permanent, it can become a habit.

- Graduating or leaving students are more enthusiastic about donation.

- Students who are in rush to complete a model are more enthusiastic about pick-ups.

- A random guy ran into the desk and asked for a bigger ruler like T-square; he was in need at that moment. The need of certain items at certain moments brought me to think about a call-back system: an easy notification can be sent to the used when/if the needed material is on the collection afterwards, with in 1 day.

designing 'cycle'/ Prototyping Session

The organization and sorting out of the materials made inside the workshop classroom on one corner by the use of existing metal drawer cabinet and some display mock-ups from Innovation Studio.

Fig 12.12

The items are sorted out according to the material type, bucket on the corner contains the big scale papers which are very useful for brainstormings.
The metal structure inside the classroom was perfect to store big scale cardboards and organize them in an tidy way.

Fig 12.13

Fig 12.14

Fig 12.15

12.4 OBSERVATIONS FROM PROTOTYPING SESSION - TEMPORARY URBAN SOLUTIONS WORKSHOP

After having the 'store' ready to run the service started to serve the workshop members. A small presentation is made group by group to tell the details of the service. Most of the comments were positive and thankful. As the workshop duration is one week and the students were expected to make a real project, the use of the service has started from the very first day.

In the mean time the activity of the service were monitoring on the Facebook page of the service. The pictures of how to use and the new items on the service kept posted throughout the workshop.

The credit system is not used during this week because of the time constraint but all of the students agreed on the fact that they should donate to keep the service running.

The students of Temporary Urban Solutions workshop were pretty interested in the idea during the group table presentation. The common positive comment was "I wish this existed before", "Yes I have so many excessive materials at home that I don't know what to do with them."

Another positive thing is when it was mentioned that the service need their participation and donations to survive they were all agreeing and noting down the Facebook page address to keep updated.

First pick-up were cutter, cardboard & ropes from team BoLegge. Then the teams Pumpkin Passage, Tu Play and Swapping showed up too.

The students are highly using the existing materials, but the donation rate is not that high. The tools are being used in the way of borrowing mostly, they have the urge to bring back the tools they have used. The reason behind this issue can be the location and ease of access of the collection point. As it is placed inside the classroom the students feel like it is a common core of everyone. As long as they keep bringing materials back, they are being used more and more which is a highly positive turn-back of the service.

At the end the Facebook page has 1139 organic reach and 77 likes.
(Organic reach: The number of unique people who saw your post in News Feed or on your Page, including people who saw it from a story shared by a friend when they liked, commented on or shared your post, answered a question or responded to an event)

designing 'cycle'/ Prototyping Session

12.5 FEEDBACKS FROM PROTOTYPING SESSION

After the Temporary Urban solutions workshop and the event day a feedback session was conducted to 25 attendees for having a clear understanding about the user experience. A survey was given to the participants of the session. The survey is structured to measure the user satisfaction of each level of the service; Donation, Choosing, Picking up and Online Services.

The sample group consisted of 7 different nations:

Italian   Brazilian
Chinese   Portuguese
Israeli   Turkish
Lebanese

The sample group consisted of 6 different professions:

Architects   Product Designers
Interior Architects   Communication Designers
Fashion Designers   PSSDers

1) The usage percentage:

40% Used more than 3 times.

8% Did not use.

52% Used 1-3 times.
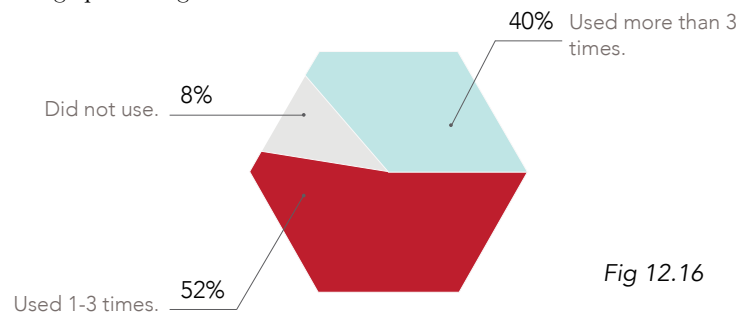
Fig 12.16

During the week there was always high amount of interest to the service starting from the first day to last. Obviously the first days the attention was higher as all the groups were in the trial and error phase where the excessive materials seems like the best option to consume and experiment their initial ideas.

2) The most enjoyed part of the service:

20% Donation

Choosing 44%

4% Online Services

Picking Up 32%
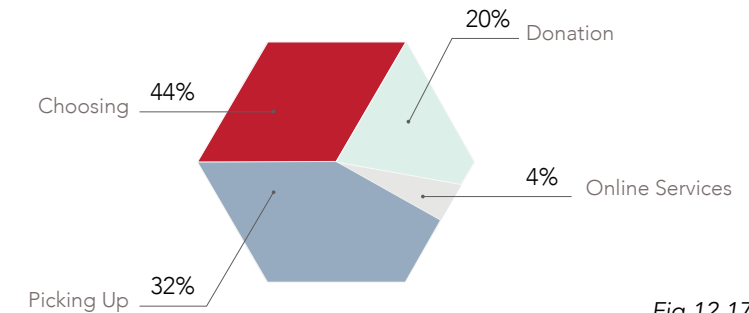
Fig 12.17

As seen above the most enjoyable part is noted as the choosing part. The reasons are stated as the joy of sharing and the curiosity of seeing other people's left materials and items. One of the suggestion was to mark each material and item with the name of previous owner. This kind of small touches may make the service more social and emotionally satisfying. This kind of acts are proven to attach more people and highly appreicated in second hand activities.

Also the users stated as they like the way of starting to design with some unexpected materials. It encourages them to think in a different way and try to expand their ideas from a constraint.

Another motivating factor of the service is stated as to find interesting objects and save money. The natural way of designing with found materials and spending no money on prototyping made their week easier and less stressful.

Almost all the users stated as to see the materials in an orginazed way motivated them to pick up things more and upcycle them. This one of the most important offering of the service where this was way of display eases the way of upcycling of already existing excessive materials. It is an adapted habit to use found materials but as the stress to find a relevant one is high, the rate of realizing it decreases.

designing 'cycle'/ Prototyping Session

3) The most problematic part of the service:

Online Services — 44%

22% Picking up

Donation — 32%

6% Choosing
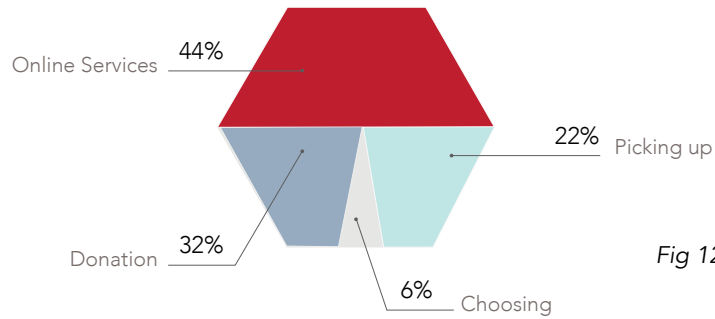
Fig 12.18

The students were asked that which part of the service they would change and how. As seen above most of the students had problem with the online services where the communication and the information about it was lacking. Also there was a misunderstanding that the students thought that the Facebook page of the service was not related with the prototyping session but it was just standing for information and promotion.

Also the students stated as a person who is always taking care of the service, like a Cycle Angel, is highly neccesary to keep the service neat and tidy. Also during the pick up communication is needed to find the relevant items.

4) Rating the overall service over 5:

5 stars — 36%

48% 4 stars

16% 3 stars
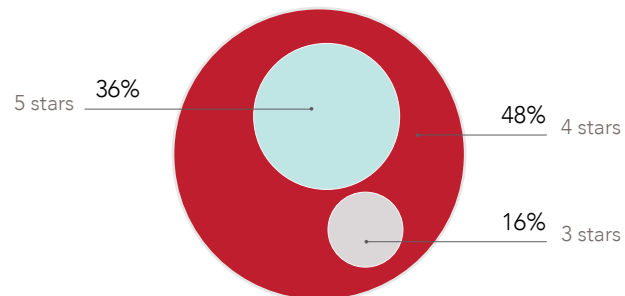
Most of the students rated the service with 4 stars out 5 which is a noteworthy amount of appreciation to start to think for making this service for real.

Fig 12.19

designing 'cycle'/ Prototyping Session

12.6 EVALUATION OF PROTOTYPING SESSION

Some improvement suggestions were asked during the feedback survey. Also a lot of observations and small interviews with the users were hold during the prototyping session. The evaluation and the inferences can be summarized as:

Time Management

To create a strategic timeline for the service is one of the key elements. To keep the service on track and credit system working in a fair way the service should function the entire academic year round. Also a service timetable should be created where the high rate of donation and picking up times are marked. According to these specific timings different events can be organized, like treasure hunt, boosting credits, opening and closing events.

Management of The Service

To keep the service organized; to keep the store neat and tidy and to reinforce the communication to students, hiring a Cycle Angel is fundamental. Users were in need of some basic answers and the store was getting messier after a couple of use. Someone should take care of the service and control the material flow. The working hours of the Cycle Angel should be determined in respect to the strategic timeline and should be dependent on the studio calendars. The Cycle Angels have the responsibility to run the service in track and the power to carry it forward.

Organization of The Donations

The donated items should be organized in an accessible, visible and inviting way to enhance the service experience. The Cycle Angel can determine the clustering according to the type, size and amount of the possessions. Some materials can be get together according to theur shape and size, this can also trigger different design solutions, as the students stated that seeing some materials available on the service made them to think in a different way which they have not thought of before. The offerings of the service also influences the way of designing thus the outcome. Therefore some events about creating kits and students can be asked to design with only what they have in those kits can be organized.

Additionally some of the donations can be put together as a "First Aid Kit' and a side offering can be generated to dedicate them for each studio during workshop weeks. As the time constraint is superior during workshops this offer can be really handy and help a lot of students. As observed during the prototypes the students have a tendency to bring back the materials after use as the platform was really accessible and acted out as a common depository. This attitude will reinforce the social communication and decrease the stress due to the individual material need during workshops.

Also more touchpoints can be designed for storing the donations. The available storage equipment can be transformed and/or new and portable storage units can be designed in coherent with the brand identity.

Management of The Online Services

The online service should be communicated better and more clearly. The service tends to look too much physical and the online part stays a little behind it, but in the real service it has a big role. Even if during the introduction presentation, the students were appreciating the fact that they could see the available materials and reserve them online, they did not use the Facebook page in that manner at all. The communication was lacking and the Facebook page does not give any serious impression in this manner.

Thus an independent platform is needed to make the online service more connected with the service and the user.

conclusions

13 CONCLUSIONS

13.1 FUTURE PROJECTIONS

After starting to run the service inside a university with university founds, the service will collect data, record real life results and testify its impact all on economical, ecological and social sustainability. With these very important insights the service can go on upscale by getting sponsored by the government channels or a private company. The store can be either non-profit or profitable as seen in the previous examples of case studies.

A network platform in between all the design and architecture students in Milan:

There are almost 30.000 design and architecture students in Milan. The service can scale up to run inside all of them universities as branches. A common store and a workshop area in the city center can be also created to unify and merge the students from similar departments and enhance the professional networking.

A real store on the market:

When the service goes up-scale the items collected can be sold with money. and become profitable. The value calculation can depend on the size, quality and type and a formula can be created to judge them in respect to their initial market value.

The store will also provide jobs for the society and will enhance the accesibility of arts and crafts for everyone from every budget and interest. It will motivate people to upcycle more, as well as to think twice before trashing their own items.

Rechanneling the excessive materials:

In the non-profit scenario Municipality of Milan can create a bridge between the public universities and public elementary schools and open up a channel to provide the excessive materials of university students to elementary school kids whom in need of creative supplies for on-hands learning. The left over materials of this service can be transported to the public elementary schools, in this way the product life cycle will be enhanced more and the creative teaching will be supported.

Potential Numbers
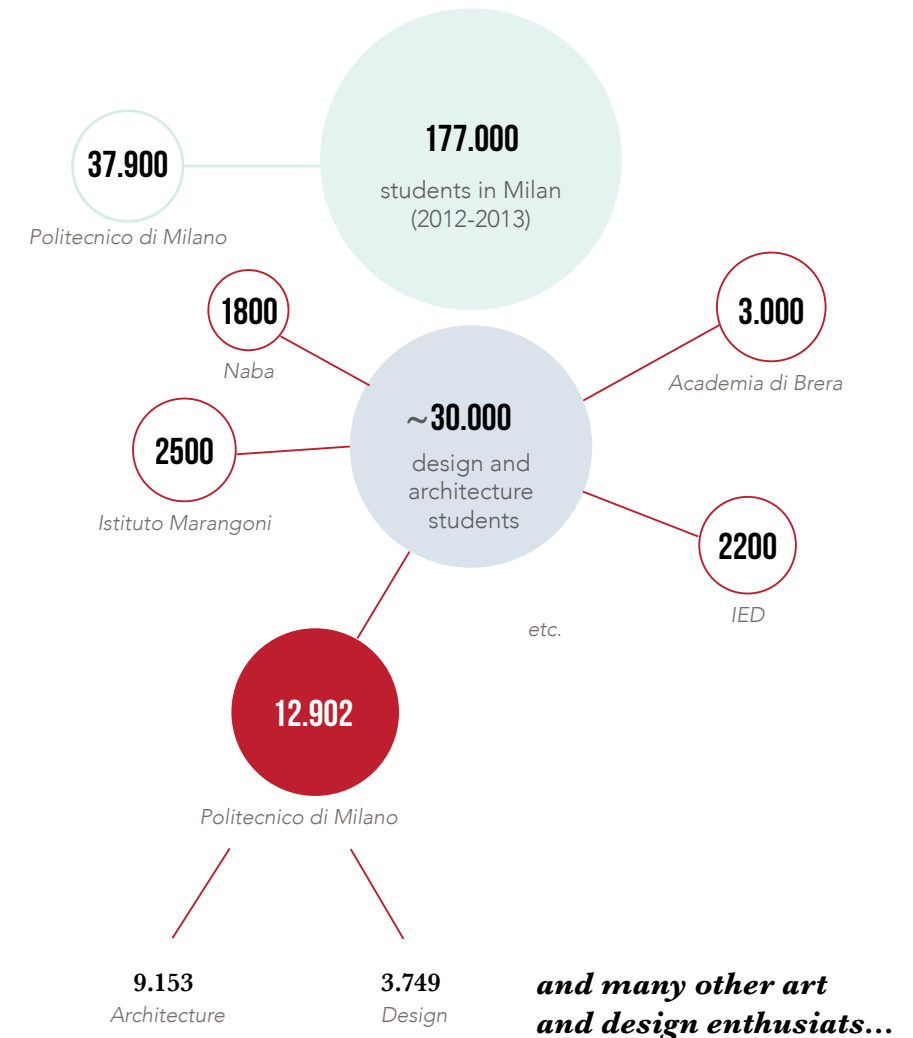
Fig 12.20 Number of design and architecture students in Milan.

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13.2 FINAL CONCLUSIONS

This service shelters all the drivers of collaborative economy (see Chapter 3) with all the motivation scales of second hand consumption (see Chapter 4) on environmental, economical and social sustainability approaches.

Thus it can be concluded as: the drivers of collaborative economy are matching with the motivations to acquire second hand goods. Therefore if the products and services of collaborative economy are promoted by making analogies with second hand consumption, which is a model already adapted and well received by the society, the adoption can be taken for granted. The consumption cycle is going back to the ancient times, where the products and human relations were the worth of trade. This is a result of increase in the amount of owning items more than need, which is reinforced by the mass production and capitalism. On the other hand, the resources are running out in the global scale where the economies tend to go green and produce as less as they can in respect to market demand. The raise in collaborative consumption will consolidate this tendency for a better future.

Furthermore, waste management is a big issue in the era of global sustainability. The governments are trying to decrease the amount of waste being produced in different ways. This service can be one of the solutions to extend the product life cycle and create lesser amount of waste ending up in landfills.

Additionally these kinds of services, which enhance collaboration, will create more connected societies in small fractions where people meet around their common interests and needs.

Another important conclusion is, design and architecture students are ready to share their learning and practicing materials and they are already trying to do it in a natural way. However, they cannot find an organized, informative and functional platform to accomplish it. Also providing a systematized way of collaborative use of these materials will enhance students' 3D thinking skills as they can easily start prototyping their creative ideas.

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Thanks.

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