S[m]ART Yummy it, reduce food wastage

Principal academic tutor

Roberto Pagani, DAD, Politecnico di Torino

Academic tutors

Andrea Ciaramella, ABC, Politecnico di Milano Silvia Chiusano, DAUIN, Politecnico di Torino Ileana Bettani, ABC, Politecnico di Milano Alberto Celani, ABC, Politecnico di Milano Giacomo Chiesa, DAD, Politecnico di Torino Lorenzo Savio, DAD, Politecnico di Torino

External institutions

Telecom Italia S.p.A Gruppo Thema Progetti Srl

External tutors Pierangelo Garino, Telecom Italia

Michele Aruanno, Gruppo Thema Progetti

Team Members:

Atanasovska Martina MSc Urban Planning and Policy Design PoliMi

Callegari Sandra MSc Sustainable Architecture and Landscape Design PoliMi

Chan Ho Yin William MSc Architecture PoliMi

Delvino Michele MSc Management Engineering PoliTo

Moreno Romero Juan Sebastian MSc Sustainable Architecture and Landscape Design PoliMi

Terraneo Emanuela MSc Architectural Design PoliMi



PROJECT DESCRIPTION

The ASP group developed their activity working in parallel with the S [m2] art research project, winner of the MIUR Smart Cities and Social Innovation tender (SCN_00325). In particular, starting from the same concept of S [m2] art, they had the task of designing some alternative proposals, even more innovative. The member group belongs to the architecture and design field, except for Atanasovska Martina - urban planner - and Delvino Michele - management engineer.

At the very beginning phase of their activity, the ASP Team members collaborated in a brainstorming activity, with the same role, but, of course, contributing on the basis of their specific study background. Also in the second phase, when they were divided into 3 groups of 2 students each and detailed 3 scenarios of "smart meter square", they had the same "role" of designer, with the exception of Delvino Michele, a management engineer who started a transversal activity, supporting the 3 groups in the service-design activity, on the basis of his specific skills.

After the discussion with the research and business partners (Telecom Italia and ThemaProgetti Group), one of the 3 scenarios were chosen as the most innovative and interesting for the further investigation in the field of smart urban furniture: the food storage, delivery and distribution, talking in account of all related social innovation issues.

In order to develop the concept in a more detailed project, the students took part in an international workshop in Food Design, hosted during the Italian Design Day by the East China Normal University February 27th to March 5th 2017. The workshop gave ASP team the opportunity to dialogue with the multidisciplinary student of the Master in Food, in a design workshop in Shanghai, based on the smart meter square concept.

Team description by skill:

Urban and architectural design

Atanasovska Martina: issues related to the urban scale integration of innovative street furniture; concept development, service design and policymaking.

Callegari Sandra: developed the user centered design and requirement / performances analysis; analysis of urban context, concept development, service design, app design.

Chan Ho Yin William: developed the user centered design and requirement / performances analysis; analysis of the state of art, concept development, user interaction.

Moreno Romero Juan Sebastian: developed the user centered design and requirement / performances analysis; analysis of current situation, analysis of urban context, concept development, service design.

Terraneo Emanuela: Team controller, developed the user centered design and requirement / performances analysis; analysis of current situation, concept development, app design.

Economic evaluation

Delvino Michele: Analysis of the market, analysis of cost and revenues.

ABSTRACT

The YummyIT service, comes as a concept from a thorough research on the current market in Italy and Milan, where it should be implemented, starting with the idea of transforming the existing telephone cabins that are owned by telecom company, into something which will have twofold benefits: the main one reduction of food wastage and second the reactivation of public spaces and creation of a unique user experience. These two objectives are as a result of two crucial problems that we are facing nowadays:

First, the irresponsible wastage of food, especially coming from big food chains as supermarkets as well as households. Moreover, the impact of this is not only to be look at the amount of food wasted but also at all of the resources being used in order to grow the raw products, harvest them, bring them to the desired destination to either sell them or prepare them further in order to get a final product. This whole process is nevertheless also affecting negatively the environment that we live in.

Second, the forgotten idea of what public space should be really used for. In an era of fast living and things happening in the blink of an eye, people usually



just pass through places and do not tend to stop and look around them, which is transforming the cities in a completely different and maybe unhuman way.

Bearing in mind these two problems, the YummyIT services offers a solution through a social perspective of giving to the users a unique satisfaction of using it.

It works in a simple way where the S[M]2ART sqm of the telephone cabins is transformed into a point in a public space where people through obtaining one of the main activities for both survival and satisfaction, that is eating, get the chance to meet other people and create a specific identity about that place. Moreover, the main and only providers of food in this case are supermarket whereas the users could be various, students, workers, families etc. The services itself is designed in a way that would make both sides providers and users to benefit out of it, with the main aim of raising awareness of the problem of food wastage and at the same time reducing it.

This resulted in creation of YummyIT which tends to be a user friendly service and works towards generating a more eco-friendly living environment in the future.

SUBPROJECT DESCRIPTION

UNDERSTANDING THE PROBLEM

The aim of the "S[M2]ART" (Smart Square Meter) project is to create a scalable system of urban smart fornitures, throught a working network which takes in considerations the users needs. The primary objective of the service is to improve the welfare of the citizens thanks to new techonogical features. The project is not only a service but it becomes a new aggregative point where people can gather and interact reconstracting the relationship with other people and the sourranding environment. The project was selected by the MIUR competition "smart cities and communities and social innovation", involving Telecom Italia, Architectural department of design of Politecnico di Torino, GTP, Politecnico di Milano, Reply, Metalco, H&S, Astrel, Winext, Dimensione Solare e Neriwolff. Basically, starting from the telephone box located in Turin and in Milan- owned by TIM group- the idea is to come up with a service that can help people to be active inside the city: this means not only to pass throught public spaces but to stop, observe around and use the space. Milan, as a prototype site area, have been chosen. To design the service, itt is considered fundamental to make an users's analysis to understand their needs and requirements. is useful to trace the IDcard of the different users pointing out their specific traits and the role they played. Understand the specific users requirements is fondamental because through them we can measure the fulfilment of the needs, define what aims and functionalities the service should get and set up the boundaries to produce a solution. Needs and requirements are clustered on human basis- end user -, technical aspect, business basis and regulatory basis. To positively influence humans' quality life and their mental status, people need to feel in a homeenvironment, user-friendly, to be safe, to have all the information they need clearly and easily to understand. Thus, our solution should be adaptable to different type of users from different ages, country and culture and it should provide positive feelings. On the technical-functional basis, technology and innovation will foster the idea of generating and implementing, within the built context, smart points of gathering and sharing as well as social interaction.our solution should answer to the need of citizens and tourists of having customized and easily understandable information. Cost-and market based characteristics set what is necessary in order to make profit and to be compliant with the investors' business mission. As regulatory and policy is concerned, Local companies and big enterprise look for a service in order to increase their profits by reducing utily costs and time for designing or installing and managing/ maintain urban infrastracture. Instead, public administration has to guarantee an efficient government and the respect of law.

EXPLORING THE OPPORTUNITIES

In the analysis of the state of the art, international precedents were examined according to the requirements of the project. Particularly, projects were selected based on their interactivity and user-friendliness in adapting new or existing technologies to solve future problems, where people are placed at the center of the design, such as home biogas, pay by weight food management, people's fridge, Bumpmar, Eco giardians.

Such human-centered design are important in relating to the social impact and usability of the proposal. The different solution generated were based on 4 main aspects:

- 1. placemaking, create vibrant public spaces and strengthen the connection between people and the places they share.
- 2. social interaction, bring people together in a place in order to socialize and create a sense of community.
- 3. technology and innovation, a 'smart' solution to activate the public.
- 4. networking, foster connectivity between the smart urban furniture.

A social approach to idea generation was developed to focus on urban problems common to both Milan and Turin. By ensuring that people are placed at the center of the project, public spaces can be activated to help with the social and environmental sustainability in cities. Key social problems were identified, which resulted in potential social opportunities, with food wastage, health and sport, connectivity and people's services selected for further refinement.

Different solutions were pointed out: an open air gym, where people with the same passion could interact;

Smart food sharing, using the wasted food; Trip Planner, an implemented tourist guide; Visual Building, using augmented reality



to recognize buildings and give а short explanation to users and last virtual sketching, а sketching virtual reality screen, where people can explicit their idea.





After a canvas analysis the most convenient solution pinpointed is the smart food sharing, being the wastage of food one of the most crucial problem of nowadays.

GENERATING A SOLUTION

The S[m2]ART project team took part in a workshop in Shanghai organized within the Italian Design Day carried out by the Italian Consulate in Shanghai collaborating with East China Normal University and many other individuals concerned with the problem of food waster in the big cities and possible sustainable solutions. Consequently the aim of this workshop was exploring new possible ways of transforming a module with the usage of innovative technology for city problem-solving

through the aspect of food wastage. The workshop highlighted the huge problem linked with food. According to the United Nations, one third of global edible food (3.9Gtonnes) is wasted in step between

production and consumption phase. The overall food waste value equates to roughly 1 trillion \$ each year. In volume food wastage is is estimated at 1.6 Gtonnes of "primary product equivalents".Food waste is not only an ethical and economic problem but also an environmental problem. 1.3 billion tonnes of food produced but not eaten is responsible for adding 3.3 billion tonnes of greenhouse gases (in CO2 equivalent) to the planet's atmosphere. The Country "Food wastage" would be third nation for GHG emissions after China and USA.



Therefore the service is developed in a smart square meter, where the providers such as big chains supermarkets bring the overloaded food and the user can go to the service and through an app, order the food that suits him. The service is designed in a minimal way, the upper part a fridge with separated boxes to maintain the food following the Italian laws; under there is a table with sliding seats and a digital scree, so that also people who are not able to have a phone can choose the food from the service.

Numerous startup businesses focus on the transformation of food waste as part of the biological cycle and circular economy. From individual household systems to more industrial systems that allow food waste to generate composting or electricity through anaerobic digestion.



FOOD DELIVERY



the supermarket finds an available sharing point with the APP.



2. Unblock with your cellphone and enter details on the scree**n**.



3. Deposit the food in the collector cabin.



4. The food is storaged in specific temperature according to its conditions.

FOOD MEAL



 Find available food in the sharing points next to you.



2. Use the table screen to unblock a chair, request your food.



4. take the cuttlery you need from the cupboard below.



3. Enjoy the meal.

MAIN BIBLIOGRAPHIC REFERENCES

[1]Fondazione BCFN, Lo spreco alimentare: cause, impatti e proposte, from: https://www.barillacfn.com/m/publications/spreco-alimentare-cause-impatti-proposte.pdf, 2012
[2]Faed, O.Hussain, E. Chang, A methodology to map customer complaints and measure customer satisfaction and loyalty, In: SOCA 8, pagine 33-53, 2014
[3]Comune di Milano, Milan 2015-2020 Food Policy Guidelines. Milan: Comune di Milano, 2015;

TAGS

smart, innovation, foodwaste, placemaking