

A Community Centered Design approach to developing service prototypes*

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Abstract

This paper presents Feeding Milan, an ongoing research project on sustainable “place” development, focusing on the importance of using a Community Centred Design approach (CCD) and service prototyping as strategies to build collaborative food networks. In this framework sustainable urban and periurban development is the central objective of the work, where the hypothesis that only by using local resources and by activating collaborative and open services it is possible to pursue real, tangible and effective improvements in quality of life and environmental benefits.

The CCD approach is presented, then the authors outline a service design tool developed for co-designing with and within the local food communities and they define the process of service prototyping applied to an on-field case.

The paper concludes by describing the project as a Living Lab, where the aim is to point out how service design may improve the quality of life in rururban areas by involving local communities in targeted steps of the solution development process, in order to support agricultural activities and shorten up the food chain.

KEYWORDS: Community Centered Design, co-design, rapid prototyping, food networks, living lab.

“Feeding Milan” scenario

“*Feeding Milan. Energies for change*” (Nutrire Milano. Energie per il cambiamento) is a research program started in 2010 and promoted by a partnership between academic institutions and local players in the Milanese area.

It started from the observation that in the Milanese urban area, the demand for high quality, fresh food hugely exceeds the actual, available production, despite the presence of a large, potential “urban larder” known as *Agricultural Park South Milan*. This is a 47,000 ha wide area of intensive agro-industry, it includes 63 municipalities where only 3% of farms practice sustainable agriculture.

Agricultural Park South Milan is a peri-urban area, lying in the urban fringe where the city boundaries blur into the countryside, giving rise to new conflicts and unprecedented opportunities (Donadieu, 2005).

In such a context, the main strategy to support the demand is to make agriculture the presidium of the area’s regional quality. This means revitalising local networks, encouraging the sharing of common principles and optimising resources in order to create a new regional system. The emerging vision prefigures a rural-urban area where agriculture flourishes by feeding the city (*de-mediation*) and, at the same time, offers city dwellers opportunities for a multiplicity of farming and nature related activities (Simeone, 2010) (*multifunctionality*¹).

Feeding Milan is a project that concerns *Design for Social Innovation* (Brown, Wyatt, 2010) and social entrepreneurship (Leadbeater, 2007): it fosters service solutions for alternative food provision based on innovation that will support social and

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¹ The concept of multifunctionality in agriculture enables a farm to diversify its sources of income by supplying other non-commodity outputs alongside its primary function of producing food, thus contributing to the socio-economic viability of many rural areas. These additional functions can be seen as services linked to the environment, territory and people.

environmental goals (Murray, 2009). Such innovative solutions need to be constantly created, tested and re-created. Here designers play the role of promoter of solutions that, once implemented, have to be self-sustainable and managed by the community of shareholders (consumers and producers).

Work in progress

Since its beginning, the *Feeding Milan* scenario has been described as “a story of stories” where such “stories” (Cantù, Simeone, 2011b) are the seeds that give shape and substance to the scenario values, being *local projects* within a *framework project*. At this stage, designers have activated several local projects; some of them are already running, others are in the prototyping stage and others are waiting to be implemented. To date they are the following:

Milan Earth Market: a monthly farmers’ market, the first in Milan on public soil. The aim is to create a board of farmers to manage the activity. Running since December 2009;

Farmer’s Foodbox: a weekly home delivery of fresh local food with a logistic system that relies on so-called proximity points: shops and offices that collect the boxes to be delivered to the final users. Now testing, to be released in spring 2012;

Super-coop: Super-coop is a concept for a new kind of collaborative supermarket totally managed by customers, who may also be firms. It works as a sort of club where the firms collaborate to run the service effectively and where they can buy food, provided by local farmers, for a cheaper price in exchange for 3 hours per month of work in the coop;

Yes Weekend: the *Park’s Tour Agency*. It’s a catalogue of “do-it-yourself” services for local tourism in the Agricultural Park;

B-Trans: a system of routes and bike sharing stations in the farmhouses of the Park, linked to the Milan public transport network. The service has already been tested and the on-line platform with the suggested routes will be up and running by the beginning of 2012;

Pick Your Own: a network of farms for do-it-yourself fruit picking. It works as a sort of CSA that asks consumers to adopt a tree in the Park in order to get a “passepartout” to pick the fruit in the different farms of the network;

Local bread chain: the first harvest with the pilot farmers was completed in summer 2011 and the first bread was sold in the September 2011 at the Earth Market. Some other distribution channels are at the designing stage.

According to Drayton, new solutions need to be constantly tested and recreated in an iterative process which aims to design the most suitable solution according to the context, to the available resources, to the actors involved and the actual demand for innovation. Indeed, the *Feeding Milan* approach to each local project is rapid-prototyping oriented: this means that every local project is generated and discussed with the broad design community of producers and consumers from its beginning. In order to do that, designers have opened a research window within the Earth Market: the “Ideas Sharing Stall”.

Community Centred Design Approach

According to Meroni (2008), Community Centered Design (CCD) is an approach that scales up the consolidated methods and tools of User Centered Design to community size. She proposes to refer to design focusing on creative communities (Meroni, 2007) as CCD “*where understanding values and behaviors and collaborating with the most active social communities in conceiving and developing solutions* (Ogilvy, 2002; Jégou, Manzini, 2008) is the distinctive work of the designer”.

CCD is not focused on the single user but on the entire community as the enabler of local change, as a resource to be valorised and from which to learn.

Working with such an approach, design professionals are required to have two main competences: on one hand the ability to gain knowledge about the community by field immersion and to develop empathic relations with its members; on the other hand to use design knowledge to design with and for the community, developing tools to enable the co-design of new solutions coherent with the context and allowing non-designers to apply their knowledge and professional skills to the issues discussed.

Looking at the Milanese context, and matching it with the project scenario and the people involved, it is possible to detect two main sub-communities to be involved in the design process: consumers, or, as Petrini (2005) refers to them, *co-producers* and producers. In general design solutions work on both side, having de-mediation as their objective and the multifunctionality of the farm as the strategy to achieve it. For instance, designing a local “food box delivery service” (a form of de-mediated selling) calls for the design of a logistic support system and requires the farmers to develop new competences and skills to manage the service (multifunctionality) collaboratively. Such a double-sided action is needed in order to create a good balance between the huge demand coming from the city, and the actual offering of fresh produce (Cantù, Simeone, 2011a).

This could have a positive impact on a region by adopting a “planning by project” (Manzini, 2010) or “acupunctural planning” (Jegou, Vincent, 2010) strategy, where many pinpoint initiatives (projects) are developed under the same framework project that provides the scenario for the overall place development.

A tool to design with and within the community: the Ideas Sharing Stall

In order to transform the scenario into real service' projects the first tool *Feeding Milan* developed was the *Ideas Sharing Stall*, a place within the Milanese *Earth Market* where new solutions can be co-designed and tested with the local food community. The stall started as a window to enable discussion between designers, city dwellers and producers coming to the market, creating tangible connections between Feeding Milan and the people who would become the users of the services to be implemented.

As the project developed, the peculiar features of the farmers' market showed it to be a suitable place for co-designing activities (Cantù, forthcoming). The market is a *multifunctional service*: a service where not only the managers offer various functions but also a place where other local actors find a chance to propose their services to the city dwellers, offering different opportunities for interaction and *co-experience* (Forlizzi, Battabee, 2004). This way the market fosters *per se* network creation between local actors, and community building through collaboration and knowledge sharing, thus creating a good environment for service design intervention.

In this context, in each 2011 edition of the market, designers proposed co-designing activities to define new service ideas and get feedback from the participants. Specifically, from the analysis of the single actions undertaken it emerged that these fell into two groups depending on their purpose:

On one hand, activities aiming to improve the market multifunctionality by creating *small-scale* working *experiences* (rapid prototypes), offered by invited guests or organizations within the market, with the purpose of creating new connections in the local network;

On the other hand, activities aimed at co-designing new collaborative service ideas in order to define new services to be implemented in the region, giving direction to the framework project.

In order to carry out these activities many specific tools have been developed since the *Ideas Sharing Stall* was opened. They are tools supporting the *strategic conversation* between the actors involved, and enabling city dwellers and producers to participate in the design process. They include mock-up communication material, surveys, storytelling and other forms of visualization helping to trigger people's attention in the market, share knowledge on the object of discussion and collect feedback from potential users.

Adopting a CCD approach in such a context leads designers to achieve much more than just having co-design opportunities with the community. The stall enables the designers to become part of the farmers' market and get in touch with the people, interacting informally with them and participating in their “life as a community”. Thus CCD becomes a fundamental learning tool for designers, helping them to empathize with the people they are designing with and for.

In this perspective the *Ideas Sharing Stall* is an important CCD tool throughout the period of *Feeding Milan*, where local connections and potential for design collaboration can be established within the community of farmers and city dwellers. The stall has proved to be the engine of the framework project, able to translate abstract ideas into concrete object for discussion, with a flywheel effect for the development of new de-mediated and collaborative services (Cantù, forthcoming).

The process of service prototyping: the Farmer's Foodbox

As previously stated, *Feeding Milan* is a framework project consisting of several local projects. Each of them is designed to be self-sustainable in terms of management and economy. This means that designers are only the promoters of these projects: their role is to help the service to start up and then to leave it to the management of local players. Thus, local actors have to be involved in the design process from the beginning. To facilitate this task, a rapid prototyping approach is needed. Such an approach allows designers to get in touch with the communities (consumers, farmers and institutions...) by showing them the service-to-be and asking for their feedback in order to implement the most feasible solution. For this reason, in order to set up an efficient and effective service prototype, a multidisciplinary approach is needed: designers and technical expertise from other disciplines, end-users (consumers and/or farmers), and local entrepreneurs and social resources willing to invest in the service start up.

As anticipated in the previous paragraphs, each service idea is part of a design process that starts with a concept proposal to be discussed and co-designed with a larger community of potential users, local players and experts, becoming an object of discussion in the *Ideas Sharing Stall*. These steps are preparatory to a prototyping stage that tests the solution in the real

context of future implementation, for a limited period of time, and involves stakeholders that will run or use the service. In our experience, the process of prototyping a service includes the following activities:

Benchmarking evaluation: research on similar or complementary projects, helping to generate ideas for a local service solution. The twofold goal is to get inspiration from other experiences and avoid mistakes at the design stage of running the service. Moreover, an initial business plan is needed in order to have an overview of the resources, costs and general organization;

Lead-users interviews: involvement of the users of similar services, focusing on experiences, feelings and motivations that can influence the design of the solution;

Service actors and activation of resources: who is working on complementary topics or could be interested in the project? By answering this question, it is possible to list the actors by category, to start getting in touch with them and to adapt our service idea to the real necessities and characteristics of local players;

Service system development: using the typical tools of *service design* (e.g: system map, storyboards, activities boards, etc.) to develop the service idea and outline how the overall system will work and how the stakeholders involved will interact.

Run time test: a first implementation of the service in a limited period of time. Real users are called in to experiment the system, and all the design choices decided in the previous steps are verified and tested in the real context of implementation.

Service monitoring and re-designing: collecting feedback from the users during the run time test and sharing it with the farmers by developing an online survey and a peer-to-peer evaluation system. This helps both the designer and the producers to re-design a more efficient solution.

According to one of *Feeding Milan's* local projects, "*Veggies for the city*", which aims at providing the city with local fresh vegetables, designers are developing a solution to distribute produce from the local countryside: the Farmer's Foodbox. In order to do that, a co-designing activity supported by a rough service prototype was carried out, helping the city dwellers to indicate their preferences about a service of weekly and local food delivery.

Taking into account the results from this activity, the next step was to figure out a solution proposal and to discuss it with a community of expert users and the farmers involved. In the rapid prototyping stage, designers interviewed about 100 people. During the past 5 months the process of service prototyping was developed and a run-time test of 4 weeks was carried out in the city of Milan. The experimentation involved 3 producers from the Agricultural Park South Milan, 5 Proximity Points (Punti di Prossimità) and 60 users, for a total amount of 1 ton of vegetables moved into the city in 4 weeks.

Since *Feeding Milan* is an on-going research process, we can highlight some initial recommendations and guidelines that emerged from this first prototyping experience, which can lead the up-coming prototyping activities on new service ideas.

Identify the optimal fidelity level of the prototype, understanding what service features need to be tested first and what can be postponed until the final implementation stage.

Evaluate a minimum and maximum duration for the prototyping stage in order to allow the service's weaknesses and strengths to emerge, maintaining the costs as low as possible for the purpose of the prototype.

Provide educational and training meetings that involve the service stakeholders. The main aim is to show and share the roles of each player, the relationships between them and the conditions and mutual advantages of taking part in the service.

At the end of two testing stages, after almost one year since the beginning of the project, the multidisciplinary group made of designers, agronomists and ICT experts, came up with a final version of the service offering, that takes into account feedback from the run time tests, and sets up the overall working system for final implementation of the service in 2012. The result is a *service model* which provides service stakeholders (farmers, distributors and service management) with some regulations, advantages and the full description of their role. This document is enriched with schemes, visualisations and tools that help each stakeholder to better understand and fulfil their own tasks to make all the system working and keep the service quality, as it is offered to the customer.

Conclusion: Feeding Milan as a "Living Lab"

Certain features of *Feeding Milan* lead us to describe it as a sort of *Living Lab*: the collaborative nature of the services, designed to be run by the community itself; the deep involvement of the city dwellers and farmers in the design process from the beginning; the participation of the people in piloting the solutions in their everyday life; the networked nature of services, where the actors and resources are spread throughout the urban region, but well connected in order to trigger new forms of relationships.

Feeding Milan is a chance for designers to experiment new service ideas that feed the city with food, and its region with agricultural prosperity. Within a scenario of “City Supported Agriculture”, small, pinpoint initiatives are undertaken, so as to implement a new idea of direct relations and conviviality between the city and the peri-urban countryside. Such services are designed for and with the local communities; they involve city dwellers who decide to take part in the system as pilot users, and require their feedback in order to be improved and replicated throughout the urban fabric. Therefore, as shown in the picture below, the co-designing process involves a wider or narrower design community at different stages of service implementation: concept proposal; rapid prototyping; reshaping; concept discussion; service prototyping.

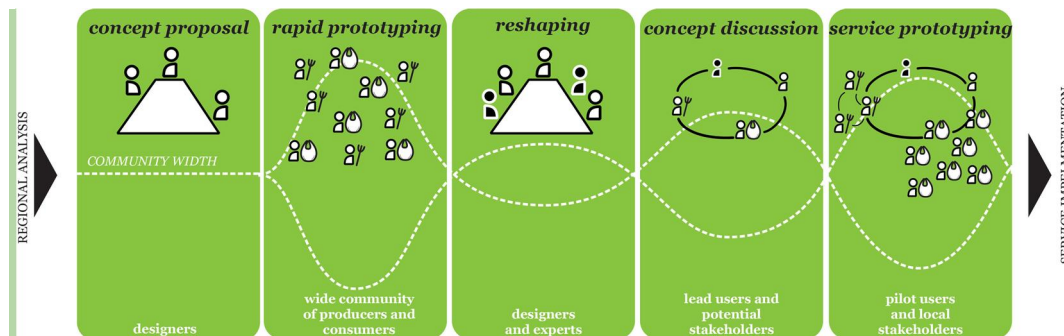


Figure 1 Community Centered Design process

References

- Brown, T. and Wyatt, J (2010). Design Thinking for Social Innovation. *Stanford Social Innovation Review*, Stanford, USA.
- Cantù, D., Simeone, G. (2011a). Feeding Milan. Energies for change. (“Nutrire Milano. Energie per il cambiamento”). A framework project for sustainable regional development based on food de-mediation and multifunctionality as Design strategies. *Cumulus Shanghai Conference 2010: Young Creators for Better City and Better Life*, Shanghai, 7-10 september 2010.
- Cantù, D., Simeone, G. (2011b). Creating Scenarios for Regional Projects. Service design for multifunctional and collaborative food networks. *ServDes conference proceedings, Exchanging knowledge. Linköping, Sweden, 1-3 December 2010*. [Available: <http://www.servdes.org/conference/papers/> [‘Accessed’10 January 2011]]
- Cantù, D. (forthcoming, 2012). *The Market Lab. Co-design for Multifunctional and Collaborative Food Services*. Doctoral Thesis in Design, XXIV cycle, Politecnico di Milano, INDACO dept.
- Donadieu, P. (2005). *Campaignes urbaines*. France: Ecole nationale superieure du paysage Ed.
- Forlizzi, J., Battabee, K., 2004. Understanding experience in interactive systems. *DIS2004*, August 1–4, 2004, Cambridge, Massachusetts, USA.
- Jégou F., Manzini, E. (2008), Collaborative services, social Innovation and design for sustainability. Polidesign. Milano.
- Jegou, F. & Vincent, S. (2010). Residencies in public institutions supporting local transition to sustainable ways of living. In Golicnik, Niksic e Coirier (ed.) *Human Cities. Celebrating public spaces*. Pp 31-35. Stichting Kunstboek, Brussels.
- Leadbeater C. (2007). *Social enterprise and social innovation: Strategies for the next ten years*. A social enterprise think piece for the Office of the Third Sector, Cabinet Office, Office of the Third Sector, UK. [available at: www.charlesleadbeater.net/cms/xstandard/social_enterprise_innovation.pdf].
- Leonard, D., Rayport, J. F. (1997). Spark Innovation Through Empathic Design. *Harvard Business Review* 75 (6), (November-December), 102–113.
- Manzini, E. (2010). The social construction of public space. In Golicnik, Niksic e Coirier (ed.) *Human Cities. Celebrating public spaces*. Pp: 12-15. Stichting Kunstboek, Brussels .
- Meroni A. (2007). Creative communities. People inventing sustainable ways of living. Polidesign, Milano.
- Meroni, A. (2008). Strategic design: where are we now? Reflection around the foundations of a recent discipline. *Strategic Design Research Journal*, 1(1), July-December. pp. 31-38, [available at: www.unisinos.br/sdrj/].

Murray, R. (2009) *Danger and opportunity. Crisis and the new social economy*. London: NESTA - Young Foundation, on line publication [available at: http://www.nesta.org.uk/publications/reports/assets/features/danger_and_opportunity_crisis_and_the_new_social_economy].

Petrini, C. (2005). *Buono, pulito e giusto*. Torino: Einaudi.

Simeone, G. (2010). *Cibo per la città. L'agricoltura periurbana sostenibile come motore di sviluppo del territorio attraverso un approccio di Design dei Servizi*. (Food for the city. Sustainable periurban agriculture as the engine of territorial development through a service design approach). Doctoral thesis in Industrial Design e Multimedia Communication, XXII cycle, Politecnico di Milano, INDACO dept.