Designing spaces and services. An experimental project for student dormitories: Collective experiences, connected lives and linked places

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Abstract

This paper describes an experimental teaching project for a student dormitory building in Milan, Italy; and through this applied project the paper presents possible relationships between spatial (environment and experience design) and service design. A human-centered design process was used, exploring the potential of creativity and design thinking while co-creating with the actual people involved in the project – the dormitory students, staff, and the local community members. The process and the methodology used were very important, especially the co-design activities: the dorm, in fact, was designed by the PSSD students in the studio for the students and with the students of the dorm. The dormitory, as a part, like most university campuses and schools, as a whole, can be considered an urban hub through which synergistic relations take place between the structure of the dorm and the neighbourhood and vice versa. Six interesting scenarios designed by students that explore the sense of community hub and a place of social cohesion are included.

KEYWORDS: service design, spatial design, co-design, design education, community hub

Introduction

Design today faces complex problems and situations. It has a holistic approach (Buchanan, 1992), and therefore, more and more seemingly separate areas of intervention are overlapping and intersecting. Design is changing from a single craft-oriented discipline into one that is more robust and multidisciplinary, connected with social environments, products, services, systems and brands (Friedman, 2002; Muratovski, 2010). Disciplines such as the design of spaces and services often require interactions in the various stages of the project. Service Design, which always combines the design of tangible and intangible aspects (Meroni & Sangiorgi, 2011), in a hyper-connected, digital and ephemeral world like ours, needs more and more tangible, secure, stable, and physical aspects. A clear example of this strong need

for dialogue is the increasingly widespread need for digital services to intersect physical space, as in the case of Amazon delivery sites, for example.

On the other hand, Environmental Design, especially in the design of public spaces, requires a strong user and use definition; especially with more faceted and changing functions, and with built relationships needed to be defined. An architecture that extends or exceeds its building limits transforms to produce energy of intangible qualities that change over time. (Branzi, 2006)

Every day, the relationship between these two disciplines becomes more fundamental, productive and important. Overlap and integration between the tools used by both disciplines is also important in the design process, including in the education context. Adding and enriching the storyboards and user journeys (tools adopted by service design approach) with more spatial details will transform them as useful tools for representing the environment, and its flows, its uses and its functions.

Also the use of co-design tools can help the relationship between spatial and service design approaches. "Co-design offers a flexible portfolio of soft system methodologies which ensure that the voices of the key actors and stakeholders are heard and integrated into the system being designed. This participation in the design process is essential to maximise the satisfaction of all parties involved in service use or provision." (Fuad-Luke, 2012) Additionally, "co-designing our services could be the next critical evolution of service design to ensure the sustained integration of human and natural ecologies for our cities" (Fuad-Luke, 2012).

The Students' Dorm as a Place of Social Cohesion

In this process of interplay between the two design fields, as mentioned in the introduction, a special role is found in the public interior and exterior spaces. In fact, there are aggregators of different functions that can be considered as fulcrums for inner neighbourhoods and urban areas. In particular, university campuses, schools, and student residences can be considered as urban hubs through which synergistic relations take place between and within the space-service concerned, and the surrounding urban areas.

Student dorms can be considered as community hubs, as inclusive locations open to different social groups and urban populations. They can host services and activities related to daily life (training, work, etc.), but above all they can be places with great flexibility in terms of scheduling and access; the can be places that remain open, active, and vibrant in different time zones, and can become a living reference point in the territory.

Focusing on schools, campuses and university residences, understood as portions of cities that traditionally relate to a practice of well-defined users (students, faculty and staff), today means trying to develop a model of action and integration in a context that can innovate not only the image, but also the activities, of the campuses themselves in the city.

If we talk about powerful relationships between the residence and the surrounding area, we can definitely identify different types of beneficiaries: first of all, the university students who benefits from the opportunity to develop social relations between them and the local community to access resources and services, and that can be promoted by the students themselves in synergy with the actors of the local community.

The other group of beneficiaries are the residents of the neighbourhoods who will find in the neighbourhood the opportunity to access resources (tangible and intangible) that are not present or are poorly represented in the area - such as new services, functions, and activities offered by the dorms and also open to the neighbourhood; plus new educational and cultural skills – and the opportunity to develop trust and exchange relationships that will enhance the social cohesion and empowerment of the local community. Particularly when the residences are located in peripheral, fragile and/or problematic areas in the city, it becomes essential to offer the activation and development of new services and public utility activities and the creation of new socio-cultural structures and services with the aim of reducing the situations of social isolation through the creation of aggregate and attractive structures, environments, and experiences.

Specifically, in this case, we reference community hubs in the process of transforming abandoned or underused spaces into multifunctional places that host culture and creativity activities. These are regenerated spaces and structures that share some common features: they are inclusive locations open to different urban populations; they are flexible in terms of use and activities by providing answers to different needs; they are flexible in scheduling and accessibility which transforms these sites into landmarks for the local neighbourhood; they are places and services often born from co-design and co-management by local communities, residents of neighbourhoods, public and private associations and bodies; they are engaging local communities and places of generation of new social practices; and the are places that propose themselves as social aggregators, but also as promoters of new job opportunities, and generators of new economies.

The activities offered by community hubs can be multiple and related to different fields: culture and creativity; support for families; technology; communication; leisure and sport, education and training; art; work and new businesses; sustainable consumption, etc.

Environmental and Experience Studio: an Educational Trial

How can place, space and experience be potent and memorable components of a comprehensive service and system design approach? That is the basic question that was asked to the students of a Service Design and Environmental Design studio (by Prof. Luisa Collina, Prof. Peter Di Sabatino, Prof. Laura Galluzzo, with Ilaria Bollati, Claudia Mastrantoni, Vanessa Monna as Teching Assistants) at Politecnico di Milano – with its specific focus explored how PSSD and Environment and Experience Design can merge. The studio engaged an international mix of 38 students, including Turkey, Bulgaria, Italy, Thailand, Greece, India, Iran, Colombia, Austria, China, Egypt, Serbia, Spain, Germany, Mexico, Peru, Portugal, Scotland and Malaysia. The students were divided into 11 working groups, creating an interdisciplinary mix of thinkers, makers and doers that also mixed students were from different educational background, such as interiors, product, communication, sustainable design, engineering and architecture.

The studio worked with the existing - and yet to exist - products, services, systems, environments, and experiences at the 'given context' (the dormitory building and its context) in a sort of prototypical manner with a particular focus on public and communal spaces, way-finding, and overall communications / media.

> *It is not enough to see architecture; you must experience it. You must observe how it was designed for a special purpose and how it was attuned to the entire concept and rhythm of a specific era.... Seeing demands a certain activity on the part of the spectator. It is not enough passively to let a picture form itself on the retina of the eye. The retina is like a movie screen on which a continuously changing stream of pictures appears but the mind behind the eye is conscious of only very few of them (Rasmussen, 1964).*

The studio explored and practiced the design of environments and experiences as leading components of a comprehensive product/system/service design proposal. The importance of place and space was therefore critical to understand, to manipulate and to create. To do so all the students tried to see space, feel space, and imagine space, as well as see and understand the scale and sense of the environment, and to have the ability to manipulate or create space.

The triad of Space / Object / Surface is fundamental to us as humans, and certainly to us as designers, strong familiarity, understanding and ability in all three areas are vital for creative excellence, innovation and experimentation.

The studio developed familiarity, understanding and ability in a variety of ways, and through a variety of processes and tools. Readings, lectures, in-situ visits, case studies, prototyping, and iterative design work was combined with photography, video, sketching, diagramming,

writing, drawing and modeling. Each group of students visited and documented the site, observed and imagined possibilities, engaged the various constituents, and created comprehensive proposals in relation to the existing and potential environments and experiences at the dorm in terms of a normative Product/Service/System design approach and deliverables combined with attention to spatial and experiential design. Additionally, communication strategies of varying types and at various scales were very important to the project, and each group studied and developed a work in this area.

One of the main focus of the studio was to have the opportunity to explore how the dorms, and their context, form a sort of network amongst themselves, with the institutions, and with the city trying to understand how might "Collective Experiences", "Connected Lives" and "Linked Places" really have meaning, and how they might manifest in design.

The Co-Design Role. A residence for themselves: students that design for students with students

A human-centered design process was used, taking the potential of creativity and design thinking while co-creating with the people involved in the project. The studio's actors try to offer techniques, methods, tips, and worksheets to guide participants (specifically students, staff and local communities members connected to the dorm), through a process that gives a voice to the dorm's community and allows their desires to guide the creation and implementation of solutions. This is not always a linear process but it is rather always made by three main phases, starting from the *Exploration*, going through the *Ideation* phase and creating a "*Prototipation*." The main aspect is to underline and build empathy with this dorm community and generate a chance to design a feasible new service-environmental solution that can be tested and placed in the context.

The first stage – Exploration – aims at the identification of a significant objective and its possible development in relation to the given context. The method used is the *Community Driven Discovery*: interacting with real experts on the dormitory topic (students, staff, architects, community members, etc.) - people who have the best insights to start building the *Design Challenge*. In this phase, the design process considers the recruiting members of the community as a primary researcher, translator and key informant for the project. The study of the given context through the meeting with the various stakeholders identifying spaces, available services and the general existing atmosphere generated by the environment, helped to create an analysis of *Strengths*, *Weaknesses*, *Opportunities* and *Threats* (SWOT analysis). This helped to begin an outline of strategic action. Different techniques were used for an in-depth research about the insights like *Interviews*, *Shadowings* and *Fly on the wall* techniques.

The second stage the Ideation part took place during the two days of on-site, co-design sessions. The facilitators were the studio's students. One of the strengths was the multicultural / diverse nature of the project teams, with different nationalities, disciplinary and educational background. The method of group-based interviews, especially when diverse, can be a valuable way to learn about a community quickly. Group interviews can be good for learning about community life and dynamics, understanding general community issues, and giving everyone in a community the chance to voice their views (IDEO.org). The environment was divided into big activities, such as "Speed dating" groups, "Interviewing" groups and "Shadowing" groups. The co-design session was able to gather more than 100 participants from the dormitory and engage them in different activities with the main goal of understanding who they are, their problems, desires and feelings towards their living space as well as their ideas for improvement. The activities by the students and with the students also included "Hotpot", "Express yourself wall", "Feelings board" and a "Word game". The data generated during this activity was highly relevant, and it was the foundation for most of the studio projects.

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Figure 1 – An example of the "family posters" created during the Studio not only to promote the co-design session but also to create the first engagement and touch point with the dorm's community.

Sometimes users can play co-creating roles throughout the design process, i.e. become co-designers, but not always. It depends on the level of expertise, passion, and creativity of the user and designer, and other issues and constraints. All people are creative, and can help to inform, but not all people become designers. Four levels of creativity can be seen in people's lives: doing, adapting, making and creating (Sanders, 2006). Perhaps people with a high level of passion and knowledge in certain domains, and who are invited to participate directly in the design process can certainly become co-designers (Sanders & Stappers, 2008). In any case, design process is, or should be, inclusive, and hence all can contribute.

In the case of the project and process, the student designers don't passively receive the knowledge from the stakeholders, but may also really have empathy with their student colleagues, and understand their needs and thoughts because they may be (or have been) users of this dormitory life too - and as service designers, they are able to recognize the strengths and weaknesses of the insights. Using the "in context immersion" method, meeting people where they live, work and socialize, and immersing themselves, reveal unexpected opportunities. They are researcher that bring knowledge from the theories, and develop more knowledge through observation and interviews (Sanders & Stappers 2008).

So, in this co-design session the roles get mixed up: the participants who will eventually be served through the design process are given the position of "expert of experience", and play an important role in knowledge development, idea generation and concept development. In generating insights, the researcher supports the "expert of experience" by providing tools for ideation and expression.

A Selection of Six Different Scenarios of Use foreseen by Students

The last phase of the studio had the specific focus on exploring how environment and experience design can merge by prototyping ideas born during the research phase and the co-design session. As mentioned, the design of environments, especially in the design of public spaces, benefits from a strong and detailed use and user definition. Different methods and hybrid tools can be mixed up creating frameworks to highlight key relationships and develop the strategy (e.g. journey map, relational map, customer journey map, storyboards, etc.)

A journey map can help to visualize a process from the beginning to the end; it's a linear process and easily allows you to imagine an entire flow of an experience. During the ideation

phase, all the student designers developed much information to be organized, and through the hybrid tools everyone was able to visualize patterns, understand the perspective of the constituents, and finally unpack the context they're working within.

Below, in figure 2, we can see a customers' journey map outlined by students of the studio, describing a typical critical moment "the arrival of a new student" in the dorm. The map is supported by characters and actors, an emotional graph which describes the feelings of the new student (customer) at the time, and all the pros & cons in the precise touch point, space, moment of the journey. In particular, here in the diagram, we can see the moment of the "arrival of a new student" at the Dorm, how does he/she feel seeing the structure from the outside and if she/he, for example, are able to reach easily the building.

The first touch-point between the students and staff is perhaps the main starting point of the most developed project in the studio. One of the best studio outcomes is the "welcome kit" designed by the students with city maps, social engagement gadgets, souvenirs, rules, and paperwork… that can help the new dorm arrival to "feel at home" and to create their first steps in the experience / journey.
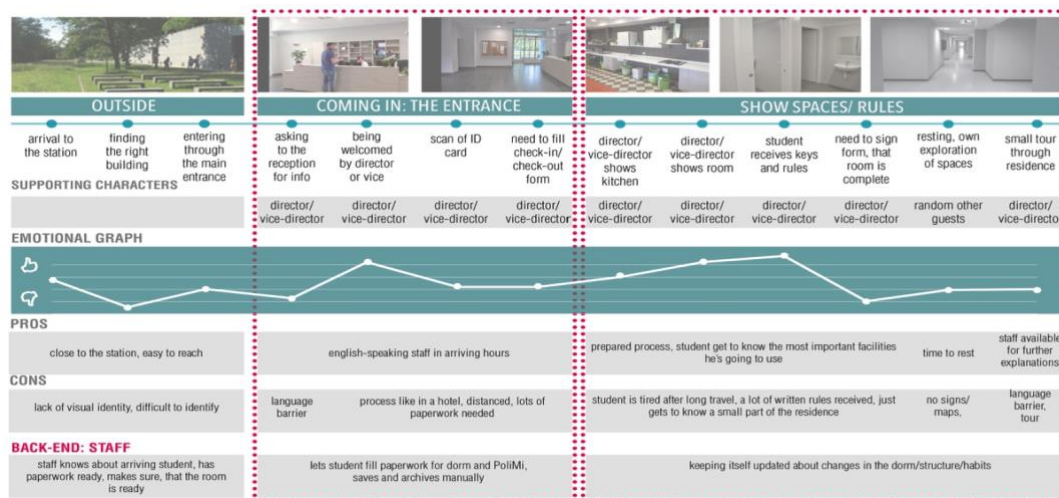

Figure 2 – One of the Customer / User Journey Maps developed during the Ideation phase of the Studio. "A Place to Meet", project by: Camilla Fraboni, Felicitas Schmittinger, Paula Soler, Cristina Tamburello.

Many different scenarios of use and experience have been developed while trying to address the main intentions of the studio, which included delivering at least one affective communication channel, one innovative service, a new environmental communication, and one new spatial proposal. This paper has selected six different scenarios proposed by students to demonstrate the different outputs generated from the research. The first project underlines the potential of the garden and the entrance of the building as a gathering point for activity and socialization with the neighbourhood. As stressed, the key point of this paper, and of the studio was to examine the dorm as a possible place for social cohesion.

The second proposal emphasizes the sense of belonging to campus life, while generating sports activities to foster a sense of school spirit and instill a sense of community.

The third student project highlights interior multi-functional spaces through an intense analysis and SWOT process.

The fourth example describes a digital board as an innovative service to create and share events, while also connecting people inside and outside the dorm.

The fifth proposal is a "memento project" that is made with the aim of recording experiences through an object.

And the last selection, as mentioned above, contains a "welcome kit" as a "gift" to the new arrivals at the dorm which can help them to move forward in the first steps of this new experience.

- The garden area as a filter between the dormitory and the neighbourhood: **"Multitone - Cultural Hub"** is a project (developed by: Gea Sasso, Serena Chillè, Sook Yin Fong, Rita Faia) located in the garden and in the auditorium, using the reception as a welcome and information point. The hub hosts a set of activities: a "Seasonal Festive Market" that allows for cultural exchange and ensures all the students far from their home feel less lonely during festivities; a "Monthly Market" for swapping and selling that translates cultural exchange into goods; "Programmed Film Weekends" with screenings during the weekends where neighbours and students can enjoy cinematographic pieces together; and "Open Class" where anyone can take advantage of the space and propose their own classes. All activities are planned to be managed by the student desk at the reception, and centralized in the platform where it is possible to buy tickets, consult the agenda, connect with other members of the Hub, and share ideas.
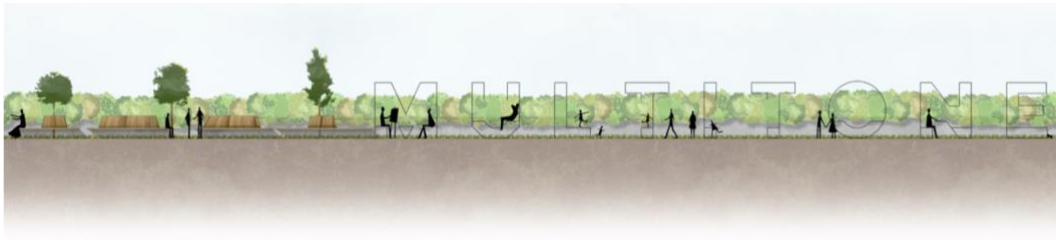

Figure 3 – Frontal View of a part of the "Multitone – Cultural Hub" project.

- Creating a sense of belonging and enhancing the participation of campus life in the dorm: **"Team Dorms Cup"** project (developed by: Giulia Balboni, Samuil Botev, Marianna Carbone, Anrui Xu) talks about the internal dorm community which is composed by all residents. The aim of the community is to involve people in active participation in campus life. In order to make everyone feel part of the community, and to avoid different levels of involvement, the idea is that everybody who joins the dorm automatically starts belonging to the Team from the very first moment. The aim is to build strong relations among students, making it more satisfied to live in the dorm and to be proud of it.
- Multifunctional spaces are seen as places of Social Engagement: **"Ikos – Spaces for everyone"** project (developed by: Martina Hopfner, Doàa Mohamed Refaat, Anna Virginia Rigillo, Beatriz Rincon Pozuelo) represents the idea of making social engagement suitable for everyone, to feel the context of space according to intimacy and mood, and to be able to create different levels of interaction.

Figure 4 – A "Social Engagement – Multifunctional space" inside the "Ikos – spaces for everyone" project.

- Innovative Service to connect events, activities and spaces with people: **"The Online Board"** developed in the project called "X Newton" (by, Dimitrios Chatzichristos, Simone Chiani, Marisel Sinta Ramos, Luca Tajè) is an online service created especially for dorm residents.
  It serves the combination of spaces and activities, and lets people use them to invite people, create events, promote activities, offer courses/services, and create a big inner network of connections.
- A flexible common ground towards creating shared experiences and the idea of "recording memories" with the "**Memento – Symbolic Artefact**" developed in the project called "Our Newton" (by: Martin Andreev, Sean Fegan, Giulia Capriotti, Maddalena Mazzocchi) is focused on the idea to record and document memories within the community, a memento is gifted to each resident at the end of their stay. This memento is shaped by the individuals engagement with other residents on the online platform.

Figure 5 – "Memento – Symbolic Artefact" prototype.

- To create a sense of belonging and to foster a sense of school spirit: "**Welcome Kit**" is a useful analogic innovative service developed in the project called "Welcome Home" (by: Sebastiano Gobbo, Clara Marcolin, Ao Shen, Susana Soto Bustamante) that helps the new arrivals at the dorm to move through the first steps in this new experience. It contains a guide map of the city, a language guide, and some souvenirs to personalize the environments, some objects for the school, and a personalized mug. The welcome kit is to be considered as a filter between the staff and the students as a first touch point of the entire dormitory experience.

Figure 6 – "Welcome Kit" prototype.

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Finally, all the scenarios and outputs delivered have the same components in common: to propose improvements and relevance, to increase the efficiency and impact of the various spaces, to create comfort issues, to build engagement, to increase awareness and impact, and to investigate communication.

Conclusions

These last scenarios illustrate how positive the relations between the community hub and the urban environment could be, particularly in the case of a university residence and the dynamics that can be establish with the neighbourhood.

The positive synergies that are created between different populations, as we have seen, can help to change peripheral areas (and not only) by avoiding dangerous processes of gentrification and favouring a collaborative bottom-up process, and to do this there is no better tool than co-design processes.

As we have seen, co-designing the space-service in question allows a close collaboration between all stakeholders in the design development process together with a variety of professionals having hybrid design/research skills. The participants will come from diverse backgrounds, and with many types of cultures: disciplinary culture, corporate culture, ethnic culture, worldview, mind-set, etc. (Sanders & Stappers, 2008).

In the future, we can imagine an evolution of the tools and processes that allow co-design: "One of the major challenges in planning and architecture today is the communication gap between the design team, the different levels of 'user groups' and the wide array of specialized consultants to the process. In the future, the new co-design languages that support and facilitate the many varieties of cross-cultural communication will become highly appreciated" (Sanders & Stappers, 2008). We can also imagine an evolution of the tools that promote an integrated synergy between spatial design and design for services.

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