

***Phygital* public space approach: a case study in Volpiano**

Liliana Bazzanella^{1,3}, Giuseppe Roccasalva^{1,3}, Simona Valenti^{2,4}

¹ LAQ-Tip (High Quality Lab-Territorial Integration Project), DAD Politecnico di Torino,
Via Pier Carlo Boggio 61, 10138 Torino, Italy

² Corso di laurea Architettura per la sostenibilità, Politecnico di Torino, Politecnico di
Torino, Viale Pier Andrea Mattioli 39, 10125 Torino, Italy

³{liliana.bazzanella, giuseppe.roccasalva}@polito.it

⁴simona.valenti@studenti.polito.it

Abstract. Today an important challenge is opening: designing public spaces by taking into account the augmented meaning carried by “new digital citizen and users”. New ways of digital communication, a broader network of digital information and the open data naturally transform also the physical space into something new we can call “phygital” (Momentum 2012). The usual way to read urban spaces could be improved with new digital technology. How is the boundary between virtual and real?; what if people overcome easily these boundaries? The phygital spaces are not the common urban spaces as we usually think but a place-based network of interaction among people. Throughout a research experiment carried out by Polytechnic of Turin in collaboration with the Municipality of Volpiano (TO), this paper proposes a community planning strategy where people keep their central role and virtual interaction empower the design of a new sustainable city space.

Keywords: e-participation, digital social engagement, social media, public space, crowd sourcing, phygital spaces, place making

1 Introduction

The new “Era” of information is transforming the society, the way the city is used and how we investigate public spaces.

Social relations change going towards two main trends: the raise of the individual and the enabling of communities - the concentration and decentralization of people in place and time where a new “Society of Networks” produces an interaction between physical space and virtual space, shaped around the combination of place and network.

Communication systems, social media and open data affected city space, the way we interact within it, but also the way we can analyse and learn about a city issue. The urban space is becoming more hybrid, where virtual and real are two mixed layers and one informs the other mutually.

2 Enabling cities by studying the phygital space

Urban *phygital* (physical and digital) spaces are the stage for new intentional (or sometimes unintentional) community sharing, where people are both passive users and drivers of new public space's meaning. In this context, cities work as containers of new interactions between people and places. Accordingly, cities are becoming more and more digital, or better "smarter". The interest in the "urban smartness" is increasing as it is shown by the interest of big number of companies working on digital devices and services centered on people urban experiences.

Internet offers a new "place" for social relationship instead of the traditional and common ones. The lack of interest in public space could be overcome with a "hybridization" [Juan Freire 2012] of the physical and digital public space. Today the web debate gathers citizen's interest much before than regular administrative process. People claim about spoiled areas, vandalized streets and urban furniture on many different communication platforms. This virtual debate on urban spaces engages people and makes them interact. However, the risk is new technologies could lead to lose interest or awareness about the physical space. As the anthropologist Meyrowitz wrote in his "*No sense of place*", the fear is that new media and virtual reality could replace the real and material world and make human relations weaker. The social and urban structure might change if people can communicate without being in the same place. Meyrowitz's hypothesis was then neglected by time; in fact new media gave new values to real places.

Moreover, the rise of digital tools fostered the participatory process by enabling people, even if not representative, to fill the space with data and information. The city becomes a network of "wireless link" which are used to connect people, to allow services and, above all, to enable people and space to be differently learned. For example, digital devices are traceable and can be used to study senseless urban spaces or to interpret "no places" by uncovering hidden meanings.

These research approaches, its tools and process, might be a new field in Urban Design the more applications and experiences on the field are carried on.

3 Comparing some case studies

How is it possible to obtain some general guide lines for redeveloping a public space by taking into account the augmented meaning of new digital citizen and digital cities? It was made an extensive search for similar and remarkable phygital experiences held all around the world [Roccasalva et al 2012]. The cases studied were organized according to two different aspects of the interaction: the place (away/on site) and the relation between digital and physical components.



Fig. 1. Web site and “web on site”. Two investigation activities for gathering citizen knowledge about a space and for engaging a debate among participants (Source: Roccasalva 2013).

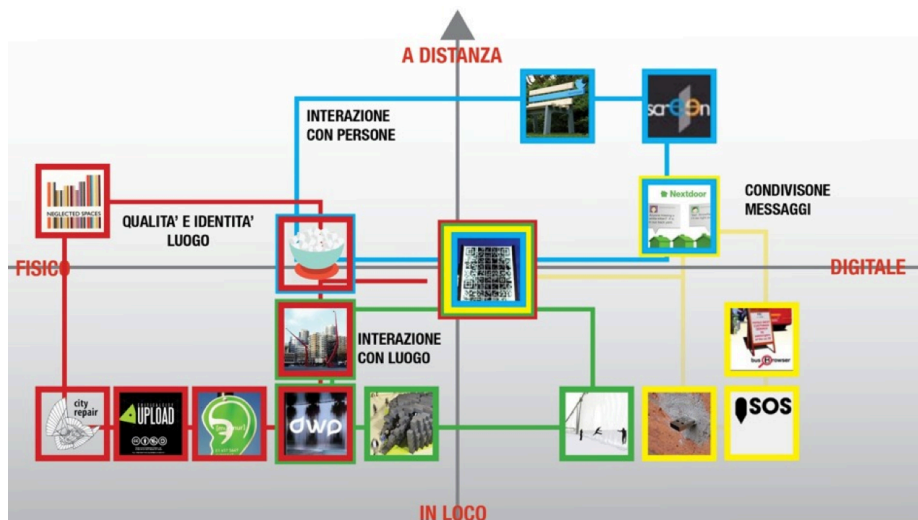


Fig. 2. Grouping case study into categories. Groups of experiences based on -type of relation (on site/at distance) and percentage of digital or physical component of the interaction.

From the proposed scheme, four families of strategies emerge: two of them mostly related to people and the other two to place and its quality and identity.

Physical and on-site interactions are example where experiences are digital and are sharing the same space and time. One of this experience is “the digital water pavillion” which is a building equipped with digital sensors for interacting with people around it. Sensors can be guided by people’s choices over the internet.

On the opposite, there is the field of unmaterial experiences; for example the “Tweetingseat” is an interactive bench which connects real and virtual communities through two video cameras recording people while are tweeting and sharing pictures online with virtual followers.

The combination of on-site/digital and at distance/physical interaction bring more hybrid experiences (such as “Share some sugar” which is an online platform to share physically some needed objects with neighbourhood). Other cases study show how to build temporary relations on-site; for example “Dead drops”, a project where people can share files and digital contents through usb keys installed into physical walls placed downtown.

Some of this case study are keen in animating the space in order to strengthen the relation among the local community. Some other cases try to build new forms of interaction on site. All this case are focused in helping smart citizen to create temporary, and sometimes last long smart communities.

What could be some conclusions coming out from the diagram?

Firstly, if the transformation involve mostly the space and its characters, the prevalent component of the interaction is still the physical one (see the left part of the

diagram), strengthening the importance of been in space even if digital media are the enablers.

Then, in small contexts it is possible to enhance a deeper interaction among people than in larger ones, where the net allows to overcome the distance through messages and sharing tools.

Finally, the more suitable strategy is the result of the combination of the spatial and social context of application.

The social dimension is the central key of the whole design method, because a space becomes a place where people feel part of it and recognize themselves in it.

4 Digital and physical investigation process: a case study

During spring 2013, Polytechnic of Turin throughout an experimental course offered the opportunity to test some of what we call “phygital public space approach” and to set in place some strategies aiming to foster the interaction. The experiment was held in Volpiano (a city close to Turin) and 25 students were selected to carry on the experiment. The mission assigned to the course was to study and enhance a specific city’s public space through the study of the interaction of virtual and physical dimensions.

“Piazza Madonna delle Grazie” (one of the major square of Volpiano) was about to lose its main activity (market place) leaving a huge public void in a strategic position of the urban structure. This void is so big that it can contain the whole number of population (14.000 inhabitants). The sense of this urban space which was built throughout the years by people who lived and used the square was slowly vanishing and the Municipality wanted to start thinking about a future meaning.

This transformation became an opportunity to set a research and formative experience aiming at building a community based design process through both analogical and digital strategies.

Students detected and reported from the public space and its contextual area digital data as information coming from Public Administration (Master plan), Internet (website, e-journals...), form digital analyses and from the virtual debate of a special blog page which was set in place.

Students and a scientific coordination group choose appropriate media and technologies in order to cancel material distance between the participant, shorten the time of gathering data for analyses, making knowledge accessible and debatable to everyone during the design process. Also traditional community based tools and activities (brain storming meeting, interviews, surveys) were set in place in order to make students in tight contact with local practitioners, entrepreneurial and groups of citizens (schools, artist, sports groups and so on...). However, this physical-digital engagement approach turned the city in a network living in the same public space and ultimately gathered interest on the future of this area.



Fig. 3. Vote your design proposal. A virtual platform was used to vote and comment on student's design proposal.

Such a framework was based on a participatory process which had two types of strategies:

- analogical strategies: before and during the workshop professionals and common citizens were invited to discuss all together about the possible futures of the public space. A serious focus group was prepared during this process on specific topics (dimension of the square, opinion of local practitioners, expectation of politicians, of kids and young citizens). During one week in May, students lived directly in a multifunctional room near the project area, where citizens and people were invited to discuss all together about initial student's proposals.
- digital strategies: the whole process (activities, analyses and output) was constantly online on a wordpress blog (piazamadonna@wordpress.com) hosted by local municipality. During last two months the web page got nearly 15.000 access (about the whole citizen number). People were invited to follow and also comment the activities, to answer to the automatic online surveys, to take part to students analyses and to vote the final general design output of the square. Furthermore ideas were gathered and pinned up on a virtual map called "ideoteca" which distinguished each suggestion according to four categories (which, where, when and what). All the digital strategies were aiming to stimulate interaction between the participants, gather information and report the analogic data on a sharable bases;

Both strategies were used to support the urban analyses, to suggest some general design alternatives and to start an open debate with all the participants (virtual and physical).

Regardless the specific media or digital analysis that were used, it is important to record how this process was strategic for the case study. The comments of most of the participants shown us how people are eager for communicating and sharing their knowledge and expectation. In the first phase, as usual, prejudices and critical issues on the present state of the square were rather more evident than any possible image of future transformation. At the same time this condition was helpful to set a free discussion in all the focus group about the future meaning and not the design of the public space. This helped to focus on "how" to reach the future of this public square rather than "what" might be the next design of the square.

Among the main results of the investigation process, the sound and visibility surveys were two digital-physical approaches which uncover wireless meaning shaded by this particular public spaces and at the same time they gave some hints to the initial design phase. In fact, the flow map of pedestrian's movement and the map of sounds of the square were detected, discussed and used on two of the five design proposals. The town planning office and the mayor of Volpiano (Emanuele Dezuanne) which have been an active part of the whole process, collect all the citizens information and students design suggestions to start thinking to a more detailed implementation phase and take consistent decision for the future of the public space.

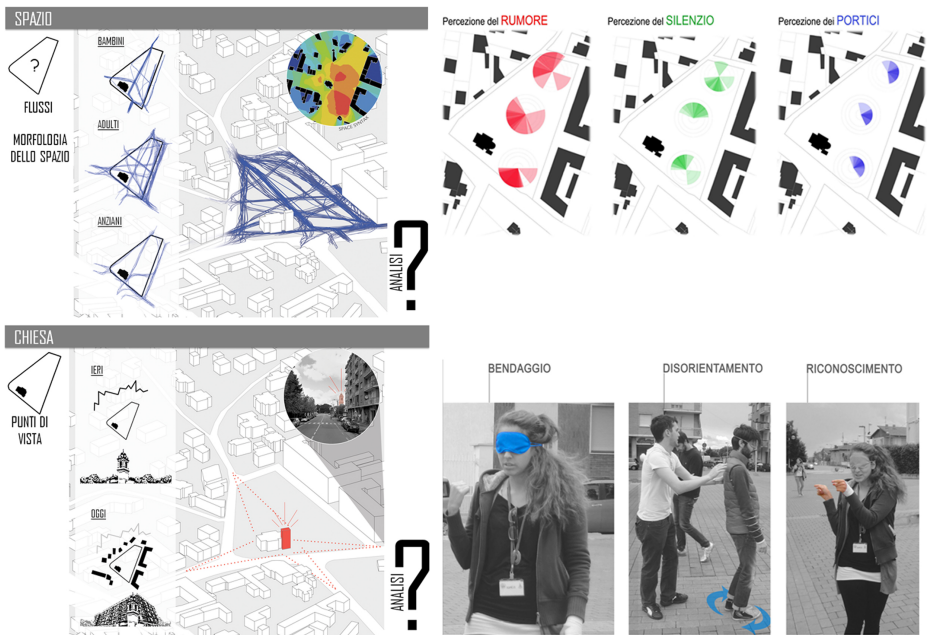


Fig. 4. Visibility and Soundscape. Some of the urban “phygital” analyses which helped the debate and discover new quality of public space.

5 Debating the future: the point of view of the Administration

The case study approach on *phygital* space was the first participatory process of the municipality. In this regards, there has been several interviews to describe the administrators point of view. Here are some of the key questions which were aswered by the Major and by the town planning office:

- What would you change of the process?
I would extend the time the process lasted or make something to make it more visible in order to give chance to more people to participate
- There was something you wouldnt’ expect?
I didn’t expert citizen and expecially the school to be so enthusiastic as well I was concenr about the indifference of local practitioners. Students were showing us some unexpected ideas about how to change our neighbourhood creatively.
- In economic and social terms, can you compare this process with the traditional way of taking care of urban public spaces? Which were the benefits?
In these small communities and terrotories, it was a big challenge to experience something new. It is a kind of shift in mindset, a cultural change, expecially in the building construction. In this time of prolonged crisis (both

social and economic) it was correct to make brave choices and it will be certainly the way to operate in the future.

The town planning office was experiencing critical issues before (and not after) a public project is approved. This gives the opportunity to take into account citizen point of view with relatively consistent margin of time.

- Is digital investigation a good tool for Public Administration? Would you invest more time and money on digital? Will your citizens take advantage of it?

It is an advantage and we have already started to use it in different manner. It is also a transparent tool which enable people to take part and be part of the services.

- How long time is needed for the “cultural shift” you mentioned? Do you see some seed in this process?

I believe that it is not easy but I am sure that if we proceed in changing, the one who is opposing now will be the main supporter when in the future the change will be optimized.

The cultural shift comes with new generation but digital engagement has already proved to be effective in Volpiano. It is a struggle between those who search for innovation and those who prefer to ignore.

- What is next? How do you think to go on?

In accordance with the will of the citizen, we will try to find the economic sources to start the project even if we are bounded by the national financing regulation especially if a Municipality has managed to be wealthy and without loss.

6 Some conclusions

Piazza Madonna blog's statistics proved how the digital engagement was reaching the interest of people and overcome the inertia of some urban transformation. As it was said, the workshop got thousands of visits (15.000) in few months with its peak on specific posts (initial survey, design visions, activities on the field). On the other hand, very few comments reveal that digital interaction need to be fostered by an analogical strategy. It is necessary to work on urban space potentials by combining the traditional urban analyses and engaging processes with a digital strategy which might be less time consuming and enable place-based but also place-related network of interests.

Using digital media and tools in urban analyses is an approach which can build networks of people, information and knowledge. People can easily share and shape their public space, while urban analyses can reveal hidden qualities which are not commonly visible. All this information become observable and they can generate new awareness and knowledge in a continuous learning loop for the designer, the politician and citizens too. Despite this is just a starting point, the experience in Volpiano demonstrates how digital media could be considered as a new virtual platform for studying and participating to an urban space transformation. This process even promote new ways of connection among individuals who are interested in a

public space transformation. Moreover, digital social engagement can test data and verify some expert analysis.

The main result is the social benefit from the “phygital space approach”, apart from the spatial one. Internet is the social platform working as a basic service infrastructure for harnessing collective intelligence. As proved by the interview to the Major and the town planning office, the city becomes a larger office thanks to the possibility of the net to overcome physical distance.

The financial crisis increases citizens’ sensivity to public spending and public goods. The benefits of adopting a “phygital process” strategy is greater than expected, as people feel as an active part involved in all phases with transparency and openness. Furthermore the flexibility offered by the net allows to be faster to implement and adapt the system to different contexts in cheaper way. Then, through the application of the approach to adress city’s needs, all parties will contribute to an increase in the quality of life and well-being of the local community, which in turn may add significantly to its attractiveness and cultural creativity.

We are just at the beginning of testing a new approach that hopefully will support the governance of public urban changes through an innovative way of thinking about phenomena which is sense-able to real and virtual dimensions.

Aknowledgement

The paper was mainly written by Giuseppe Roccasalva. Simona Valenti drafted the description of paragraph “comparing some case studies”. Liliana Bazzanella was the teacher of the course in Volpiano and revised the paper. Thank to the Major of Volpiano Emanuele De Zuanne and Arch. Francesco Testù for giving feedback by answering some key questions.

References

1. Bleecker J., Nova N., (2010) A synchronicity: Design Fictions for Asynchronous Urban Computing, in Kahn O., Scholz T., Shepard M., Architecture and Situated Technologies Pamphlets, The Architectural League of New York, New York
2. Castells M., (2004) La città delle reti, Marsilio Editori, Venezia, (pp. 59-79)
3. Erickson T. (2010), Geocentric Crowdsourcing and Smarter Cities: Enabling Urban Intelligence in Cities and Regions, IBM T. J. Watson Research Center, Copenhagen
4. Freire, Juan & Karla Brunet (2012). Métodos y procesos de las narrativas digitales colaborativas: Aplicación a dos comunidades costeras. Revista electrónica de Conocimiento Libre y Licenciamiento (CLIC) - Mérida – Venezuela. Vol 1, No 3, pp. 77-85.
5. Greenfield A., Shepard M., (2007), Urban Computing and Its Discontents, in Kahn O., Scholz T., Shepard M., Architecture and Situated Technologies Pamphlets, The Architectural League of New York, New York
6. Meyrowitz, Joshua (1985). No Sense of Place: The Impact of Electronic Media on Social Behavior. Oxford University Press
7. Mitchell W. J., (1997), La città dei bits: spazi, luoghi e autostrade informatiche, Electa, Milano
8. Roccasalva, G. Valenti, S., Convergenze negli spazi pubblici figitali: rendere le comunità più intelligenti , VII Giornata di Studi INU La città sobria Napoli, 14 dicembre 2012
9. Zanni F., (2012), Urban Hybridization, Maggioli Editore, Rimini