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Envisioning Future Urban Scenarios

The outcomes of the international Mobiance 3 workshop on Sharing Cities, Ambient Commons and Urban Futures

*Myriam Servières¹, Barbara Piga², Eugenio Morello³,
Ignacio Requena⁴, Gwendoline L'Her⁵, Steven Saulnier-Sinan⁶,
Daniel Siret⁷*

¹AAU-CRENAU, École Centrale Nantes, France ^{2,3}Laboratorio di Simulazione Urbana 'Fausto Curti', Politecnico de Milano (DASU), Italy ^{4,5,7}AAU-CRENAU, Graduate School of Architecture of Nantes, France ⁶AAU-CRESSON, Graduate School of Architecture of Grenoble, France

¹myriam.servieres@ec-nantes.fr ^{2,3}{barbara.piga|eugenio.morello}@polimi.it ^{4,5,7}{ignacio.requena|gwendoline.lher|daniel.siret}@crenau.archi.fr

⁶Steven.Saulnier@grenoble.archi.fr

New digital devices, mainly mobile ones, raise new questions on architectural and urban design practices. People became "sensors", being at the same time able to move into the city and to move into the information space. Mobiance, a mix between Mobile and Ambiance, is a research and creation process focused on the impacts of innovative ICT technologies, especially mobile, on urban design. This paper first presents the context of the third workshop based on the topic, then it introduces the proposals produced by participants; to conclude the contribution develops an analysis of these proposals based on the sharing society paradigm.

Keywords: *: Mobile devices, Ambiance, Urban design, Sharing cities*

INTRODUCTION

Innovative mobile digital devices raise new questions on architectural and urban design practices. They suggest new ways of approaching urban design projects in-situ, organizing virtual and real data, acquiring information about shapes, materials, climate, colors, lights, capturing specific *genius loci* of the site, as well as creating interactions between multiple stakeholders and city users. All these new tools allowed people to become geolocated "sensors" in the city (Goodchild 2007), able to record and share infor-

mation and contribute to the management, governance, and design of space. Citizen science emerged as a new discipline that investigates the novel role of people in cities.

Nevertheless, opportunities and threats related to the use of innovative ICT technologies in urban spaces remain not fully explored. For instance, how can the collaborating actors involved in the design of an architectural or urban environment use and take advantage of these new tools? How can mobile services transform the understanding and the analysis

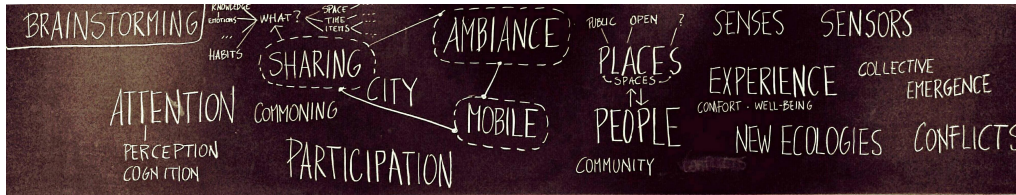


Figure 1
Mobiance 3
backboard picture
during the lectures.

of *in-situ* environment? Create new needs? Revise design practices? Produce their own hybrid environments at the interface between real and virtual? Give shape or even create particular environments? Interact with sensor and actuator actually embedded into the city?

These questions were discussed during the two first Mobiance Workshops held in Nantes in 2013 (Servières et al. 2014) and 2015 (Servières et al. 2016), which have explored the relations between mobile and ambiance, i.e. the impacts of mobile tools on urban design. *Mobiance*, a mix between Mobile and Ambiance, is a research and creation process based on the impacts of innovative ICT technologies, especially mobile, on urban design.

The 3rd Mobiance workshop was open to an international audience and occurred in Milan in February 2017. The aim of this last edition was to study the relationship between the sharing society paradigm (Ducan et al. 2015), emerging mobile technologies and how these are changing the way we interact and design cities (Servières et al. 2017). The event was, in fact, intended as an opportunity to explore novel ideas and to envision future urban scenarios for the facilitation and development of the sharing society in cities.

The students were asked to produce concepts with no regard to the actual technical constraints and feasibility; this was crucial for reasoning and envisioning long-term urban futures. Addressed questions were the following: How will the sharing society and economy approaches transform urban ambiances? Which new forms of interaction and communication will be produced in urban space? Will this modality lead to an augmented city experience?

What are the impacts on urban daily practices and on urban design production? What technical and political issues arise from the multiplication of data sharing and people feedback and interactions on urban issues?

In the following of the paper, the proposals of the students will be first presented and then analyzed. Their solutions are based on the sharing society paradigm; specifically, they took into account the specificities of urban ambiances and the plurality of sensitive modalities of the atmospheres of a given site.

FRAMEWORK AND PROPOSALS

Twenty students from different fields (engineers, architects, marketing experts, designers but also urban planners) were invited for three-days workshop in Milan with five advisors from the same disciplines. Organized into four multidisciplinary teams, they were asked to produce proposals articulating the sharing city paradigm by envisioning urban design solutions related to the topics of urban ambiances and mobility.

The workshop lasted three days and was preceded by several lectures to provide the necessary background on the sharing city paradigm, some definitions of urban ambiance, some historical examples of *sharing* in cities and clues and issues on how a citizen can be a or become *sensor* (Figure 1).

The summary of the proposals designed during the workshop is introduced below.

All the proposals are under CC BY-NC 3.0 and their description can also be found in [1].

Figure 2
Sushi City
Illustration. [CC
BY-NC 3.0 Izim Can
Kurtaran • Marieke
Faurie • Matisse
Hautcoeur •
Benjamin Puech •
Maria-Yoana
Nedevska]



“Sushi” City: Mobile Facilities Platform

This group addressed the problem of car pollution in cities. Lack of accessibility of some spaces, crowded places, loss of time during the travels, unequal distribution of mobility spaces around the city and little interaction among people. They have proposed a “Sushi” City where the traffic problem disappears, like in the early 20th-century utopia of traveling walkways for Paris World’s Fair.

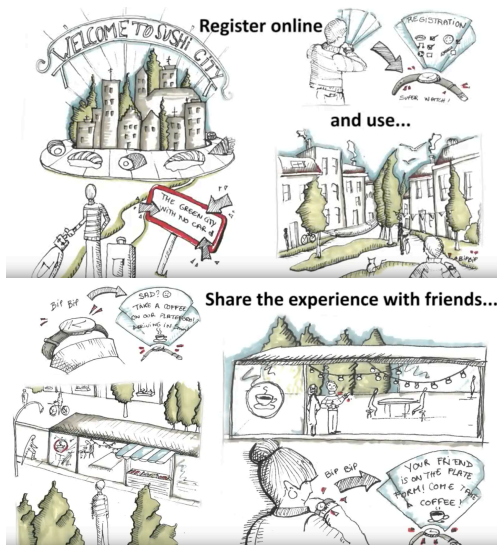
They proposed a revolutionary transport device that makes use of magnetic levitation to move vehicles (Figure 2). The devices are installed on old infrastructure that used to be for cars, specifically along the largest roads; the new mobile platform is constantly moving and harbor some urban facilities that travel on platforms. These comprise shops, cafés, restaurants and bars, exhibition spaces and other leisure activities like temporary areas for concerts. All these facilities are moving around the city, facilities

go to people or are moving with people along their journeys for traveling within the city; by doing this city, mobility becomes entertaining and less time-consuming than before.

Rather than creating divisions, the aim of the project is to introduce the new shared spaces and moving meeting areas in order to bring closer the neighborhoods that were divided by old infrastructures of the roadways. The infrastructure is not a limit anymore and it becomes easy to cross it to go from one side to another.

As far as info-sharing is concerned, the citizens will receive real-time information for the type of platform that arrives and its distance to the person himself, all based on the citizen previous declared interests (Figure 3 and 4).

This project is not replacing all the city services or spaces, but create a useful alternative and new ambiances having city and citizens moving together.



In the Mobile Living Units, people can live and commute easily. They can fly from place to place and park anywhere. These units are minimum private areas that turn the city into a shared home, encouraging social interactions.

The idea is that the city would be organized around big buildings that would offer the possibility to park the mobile units directly inside them. That would contribute to stronger social links as these building would gather commodity as giant cooking building for example (Figure 6).

About the unit itself, one of the most interesting parts would be its sustainability. It only uses renewable energies: solar power, wind power, and a new kind of energy, pollution-converting power. This futuristic energy would be produced by a system taking air pollution and small particles to transform them into energy.

These units can be understood as an update of the works of Archigram in the 1960s (Wilkinson 2017), which included mobile living pods and capsule homes or as a tangible instance of the Habîtelè (Boulier 2014).

Figure 3
Sushi City Scenario.
[CC BY-NC 3.0 Izim
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Matisse Hautcoeur •
Benjamin Puech •
Maria-Yoana
Nedevska]

Figure 4
Sushi City Use Case.
[CC BY-NC 3.0 Izim
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Matisse Hautcoeur •
Benjamin Puech •
Maria-Yoana
Nedevska]

Mobile Living Unit

This group interprets the future city as a shared home with buildings composed of separate rooms (sharing Mobile Living Units) that can be combined together according to the users' needs. The sharing house experience will reinforce human interaction and lead to a sharing house/city considering the other city inhabitants more as flatmates or family in huge house-city.

The Mobile Living Units are small individual spaces equipped with minimal furniture according to the person's lifestyle and needs (a couch or bed, internet connection and so on) that keeps the minimum privacy in the community (Figure 5). They are floating private unit which travel from one building to another and can be combined to create larger spaces.

Sensitive Dragonfly

The goal of this proposal is to make the city more comfortable and pleasant for citizens. The guideline is to focus on the notion of comfort. In this system, each individual can interact and communicate with the city and have a direct influence on their environment.

The solution is based on the logic of the human body, where all the parts work together in a systemic way to find a harmony. In the proposal, citizens are the cells and they can collaborate to improve the urban services by simply sending feedbacks; the city is the blood and, based on the received feedbacks, provides direct responses to the citizens in order to improve their urban experiences and to offer them new opportunities. The authority, i.e. the brain (the public administrators), protects everybody and uses the project for urban decision making.

Figure 5
Mobile Living Unit
concept. [CC BY-NC
3.0 Ioulieta Chatzaki
• Yasmine Fouin •
Charline
Larroze-Jardiné •
Piotr Mandziuk •
Jacques Zhang]

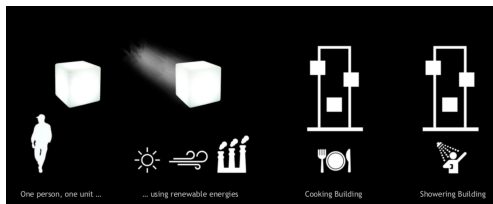


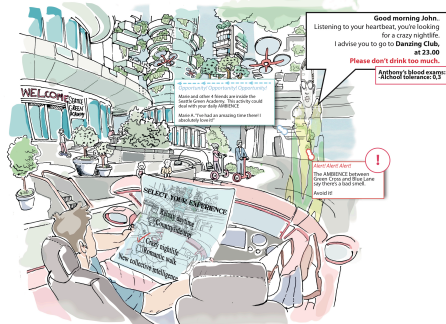
Figure 6
Share Building
example. [CC BY-NC
3.0 Ioulia Chatzaki
• Yasmine Fouin •
Charline
Larroze-Jardiné •
Piotr Mandziuk •
Jacques Zhang]



All citizens have a personal coach directly linked to the city data center that provides optimal information related to the real-time city condition and the user's needs. Citizens have the choice to switch on or off the communication between their personal coach and the city sensors.

Sensors are disseminated in the city in order to collect data, the responsive city can react to the environmental condition and citizens feedbacks. The creation of a particular ambiance is passive. In the same place, citizens can discover different ambiances depending on when they come and who are around (Figure 6).

Figure 7
Sensitive Dragonfly
use illustration. [CC
BY-NC 3.0 Benjamin
Arnold • Jacopo
Ascari • Jonathan
Hallier • Noriko
Ohata • Valentina
Petri]



White Box

This group envisioned an adaptive space that modifies itself according to both individual and societal requirements. This device, a *White Box*, is a place that physically transforms into different spaces, a box able to adapt itself in relation to the people's mood and their needs.

Sensors and responsive technology will enable the transformation of the box; this will happen in a digital but also in a physical way, creating an ambiance - or ambiances - in adequation with the users' state of mind. Such as in Haus-Rucker-Co's *Mind Expander* or *Flyhead Helmet* (1968) [2], the devices act as perception transformers, being here imagined as a collective experience.

During the day, it would turn into a workspace "adapted" to the employees' mood working in it. Once work is over, the box will transform itself into a public and social place that surrounds the inhabitants' temporary needs: a cinema, restaurant, bar, and other socio-cultural activities.

Cities could have white boxes in public spaces to be transformed to serve citizens' needs. These places can run 24/7 and create social connections between citizens in line with their mood at any time.

ANALYSIS

All the proposals reveal interesting aspects and contribute to the debate on the urban future of in relation to the sharing paradigm; even if at first glance the majority of the proposals could appear futuristic, after a second observation they reveal to be not that far to come.

The way the students see the world and their ability to envision the future according to the sharing paradigm raise relevant issues. It is firstly notable to highlight that all the international students had difficulties in entering the workshop subject; even if the concepts of sharing or smart cities was not new to them, they did not have a great insight into the topic. Indeed, the exploration of the sharing paradigm was seldom explored in combination with the opportunities offered by novel situated technologies and how



Figure 8
 Different WhiteBox
 ambiances. [CC
 BY-NC 3.0 Alvisé
 Ghizzo • Morand
 Gonzalez •
 Alexandra Hingant •
 Ivona Kovacevic •
 Natalija Marinkovic]

these together will impact on the future of city design and management.

“Data cities” ?

All the proposals are lying on the paradigm of a city that would be *smart* as a new utopia. Future city will be sustainable, adaptable, resilient, listening to the citizen, even anticipating their needs, with no traffic congestion, in short, *smart*. In fact, the four projects propose a city to *share* where the commons, but also individualism, are exacerbated, falling into almost all the utopian clichés of the smart city.

The underlying common element of all these infrastructures is the data sharing that is present in all the proposal. In “Sushi City”, the citizen/user has access to information according to the interest he/she had already shared with the system. In “Mobile Living Unit”, the data sharing is not highlighted but is necessary to control in “automatic pilot” the trajectory of all the personal units and their gathering in the shared buildings. “Sensitive Dragonfly”, on the contrary, is totally based on data exchange between users and the city and claim it as a win-win situation. As for “White Box”, the data collecting is done without even the users noticing: they want to work, the system adapts itself, they want a place to gather in an informal way, the system will transform itself.

As (Peugeot 2014) pointed out, the “sharing of information is the cornerstone of democracy in our digital times” and it would be more pertinent no more to

refer to *smart city* but to *data city*. In the different proposals, we can see arise a new common, a new urban sharing based on data sharing constructed by the citizen for the benefit of the general interest.

Human centered ?

All these proposals are centered on data shared and recorded by the user himself. We can link this to the current *quantified self* movement where people record and publish personal data almost all the time using connected portable devices. The illustration is blatant in “Sensitive Dragonfly” and “White Box”. The surroundings will adapt themselves to these data. It will create an ambiance depending on a consensus of desires that may level the atmosphere. And again, *the system* with its algorithms will do it. Like [CNIL 2017], we can wonder if the general interest comes down to an algorithmic optimization of particular interests. If such thing happens we will have a “private navigation in public spaces” [CNIL 2017] that is already feasible based on constant geolocation and network access. Personal geolocalization is becoming a new sensitive piece of data and is shared with all the rest of other personal information. In the proposals, they go further sharing emotions, but are we that far away with our current sharing on social networks?

The users can be here in a state of *permanent alert* defined by continuous networks connections through devices (Boullier 2011), devices linked to a

system that would be able to manipulate users behaviors. This is more an incitation than direct manipulation in “Sensitive Dragonfly”.

The city is constantly moving, evolving. In “Sushi City”, the city itself moves and the inhabitants move on enjoying at the same time information mobility and spatial mobility. In “Mobile Living Unit”, a “part” of the city moves but in this dystopic description, humans are alone in their bubble with “obligation” to meet for the needs of everyday life (shared kitchens). The mobility is induced, but will it really promote more social exchanges or more frictions?

Who is “the system” ?

Another relevant aspect to take into serious consideration is that it was hard for the groups to read the possible ethical or problematic implications of their projects (for instance, privacy, justice and equality in accessing services), which are instead crucial issues to face to drive the change in a conscious way.

As in previous Mobiance workshops, who handle the data, who is *the system* was not a question asked. For the students, it is a nebulous entity acting for the common good, possibly under the control of a public community. This question is one of the main ones. Who controls the *data city*? Nowadays, we see a frontal opposition between smart city mainly dedicated to control (and even sometimes controlled by private companies [3]) and citizens who want to co-create the cities using sometimes technology (Peugeot 2016).

CONCLUSION

The Mobiance 3 workshop results provide an insight on how young professionals who will design our future cities see the way we can share them all together. Their proposals followed the tradition of previous urban utopias, at least in their social, spatial and aesthetic terms, without renewing them. Therefore, these proposals were not new, but what is new is the way the ICT technologies connect individuals and may soon make some of them not be science fiction anymore.

Anyhow, the students’ reaction to such a workshop was enthusiastic, and it seems that they simply need to be more involved in the envisioning the cities of tomorrow, starting from questioning the impact of innovative technologies, emerging paradigms (in this case, the sharing society), the global governance of data and the personal data problem in our lives. In order to become active actors in the design of the future world they will live and go in the future city evolutions they will design further than the opposition between ICT cities centered on control and shared cities co-created by inhabitants. We can hope that there will be no “data master” but simply a data circulation between all those who create and *share* the city.

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