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TURNING URBAN SPACES INTO PUBLIC PLACES WITH GAMES AND PLAY

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WITH GAMES AND PLAY

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PPS Urban Board Game
(Public Play Space, 2020)

FOREWORD

Public Space plays a key role in urban systems. It embodies societal relations and collective imagination, and it represents a structural node that contributes to the resilience and functionality of cities. In 2020, the Covid crisis led us to renew our reflection on public space, on its adaptability to emerging needs and on our tools to design it.

The importance of societal engagement in the process of design and development of the public space is widely acknowledged by policy makers and the urban planning scientific community. Since the introduction of participatory practices in urban planning, during the sixties, the tools and methodologies for participation have been changing over time. Today we have new tools that can be applied to participatory processes, such as interactive technologies, and society is changing and demanding for more engaging methodologies, such as games and playful interactions.

Public Play Space (PPS) project aims at exploring innovative and creative practices for the co-design of inclusive, cohesive and sustainable public spaces. PPS explores how game and play, combined with advanced digital technologies can foster the process of co-design and co-habitation of the public space, towards more liveable, sustainable and democratic cities. Through a series of actions including workshops, collective games, production of books and digital resources, among others, involving researchers, practitioners and citizens, the project acts as a field of exploration and as a mediator between different disciplines and stakeholders.

This book collects the Public Play Space experience with the purpose of promoting an advancement in the field of urban public space design, offering new tools to practitioners and citizens worldwide, and being seminal to further research. The Public Play Space project is co-funded by the Creative Europe Programme of the European Union and developed by a multidisciplinary consortium composed by the Institute for Advanced Architecture of Catalonia - IAAC, the Breda University of Applied Sciences- BUas and CLAC.

INTRODUCTION
The City as a Playground

This publication looks at the insights of the **Public Play Space** (PPS) project, which was conducted between 2019 and 2021, in good collaboration between the Institute for Advanced Architecture of Catalonia (IAAC), CLAC (Palermo, Italy), and Breda University of Applied Sciences (BUas, Breda, the Netherlands). It aims to contribute to the development of more inclusive, cohesive, and sustainable public spaces in European cities by Playing Games or through other Playful Activities, such as Virtual and Augmented Reality Interactions or Interactive Art Installations.

PPS is based on the assumption that Play and Games are not only for pleasure and leisure, they have unique capabilities that can be used to create external values such as learning and change – for individuals such as education, but also for communities, cities, and society at large. Thus, Games and Play can be used to transform the urban space - the streets, neighborhoods, districts, and cities where we live, work, play, and socialize.

How can games and play help to create more viable and livable cities, neighborhoods, and communities? What are the best practices of games and play for increased participation in placemaking, and how can we be inspired and learn from them?

The above questions are not entirely new, or even original. We are 'standing on the shoulders of' giants, such as Dick Duke (1974), Clark Abt (1968), and more recently Jane McGonigal (2011), to mention but a few. However, there are good reasons why we should continue to pose and answer these questions.

The staggering pace of digital innovation in all sectors of society is transforming how we shape and experience the city. Intelligent systems – data-driven, artificial intelligence, 4 or 5G, and the Internet of Things (IoT) – profoundly impact the urban space. City planning becomes computer-generated, simulated, and 3D animated. Public infrastructure and services are now intelligent and interconnected, with systems such as intelligent traffic control, video surveillance, or waste management systems.

Urban residents and citizens use digital and virtual platforms for pleasure and leisure, but also for community development and – incremental or radical – social change. Municipalities launch 'apps' that look and feel like a game to activate residents to self-manage or self-provide public services. These gamified apps make clever use of 'wisdom of the 'crowd' and 'collective action'. Tourists are offered new experiences through Augmented Reality on their tablet or mobile – for instance, visiting the same place from decades or centuries ago like the Virtual Environment in Cyprus or partake in a digital treasure hunt in Palermo.

There is a wide range of new interactive, immersive and intelligent technologies that play a part in this process: Video and Entertainment Game technologies, Digital Interactive Media, computer vision, tangible interfaces, Virtual Reality and Augmented Reality or even the emerging concept of Digital Twins of the City, for example. We can define them as I3T (Intelligent, Interactive and Immersive Technologies).

In order to understand how we can ensemble these I3T into meaningful activities we can look at Digital Games: just consider how a few years ago, Pokémon GO turned the urban space into a playground in cities worldwide. Like anything else, the urban space is becoming a Public Place in Mixed or Extended Reality. Thus:

What is the role of I3T in placemaking?

Public Play Space approached the above question by organizing a range of activities, with the contributions of many experts and practitioners. They were already active in several overlapping communities interested in placemaking, urban games, and playful cities. Without their assistance, many activities would not have been possible.

Inspiration from a comprehensive collection of practices with urban games and playful interactive technologies can be found on the **Public Play Space Community wiki**. A smaller selection of thirty Best Practices was collected in the **Public Play Space Catalogue**. The wiki and catalogue are essential sources for the reflection part in this publication **- Part 1**.

During the project's lifespan, a range of activities were organized. The main idea was that we also practice what we preach. The aim was to design and test some of these games ourselves, in the cities where we live and work. Activities in the early phase of the project were still 'on' location in the physical presence. However, due to the COVID-19 lockdown measures, we were soon overhauled by our vision that social interactions on urban placemaking are rapidly becoming digital/virtual. We observed how external events accelerate developments that have already started, for example, playful and game-like public meetings and places like Eventrum.

Hundreds of students, teachers, and client-stakeholders were involved in hackathons, workshops and open game-play sessions, a few hosted on several occasions in the three partner cities of Barcelona, Palermo, and Breda, but most of them online. We organized digital experiences as our *Digital Placemaking Parade*, while scientists and practitioners gathered in the online *Public Play Space Symposium* to share their experiences and reflections on urban games and play. These are the primary sources for **Part 2** of this publication - the activity book.

We observed the importance of accepting that not everything works as foreseen. One of the most important things we can learn from playing games is The Art of Failure (Juul, 2013). To reflect on why it did not work, this time, to not give up and try again. At least, when you think it is worth it, just like placemaking.

Urban Sweeper
Project by I.Esteban, H.Qatanany, S.Subramani
Creative & Capacity building Workshop, Barcelona
(Public Play Space, 2020)

REFLECTIONS ON PLAY, GAMES AND PARTICIPATION

THINK LOCAL
ACT ~~LOCAL~~ GLOBAL

" We are not living an era of change, but a change of era. "

- Pope Francis

European cities are under a great deal of pressure. The reasons may sound familiar – climatic change, migration, urbanization, shifts in economic power, a pandemic - to name but a few. But, at the same time, the causes are very complex. They entangle and influence each other in a very dynamic and unpredictable way, with time delays between actions today and consequences far into the future. The issues trickle down to our daily lives, at home and in our work, neighborhoods and cities. Urban residents experience them as relationships with their neighbors, the quality of the public infrastructure and services, their dealings with affordable housing, gentrification, over-tourism, and more.

Some of the challenges in our cities and metropoles are so 'big' that they can best be achieved through top-down planning, in a coordinated effort by public institutions, with substantial investments, clear directions, and good political leadership. This is referred to as comprehensive planning. Thinking ahead and taking big steps, if necessary. For example, consider reducing CO_2 emissions by industry, regulating Big Tech, large-scale energy transitions such as the hydrogen economy, large-scale infrastructure development for flood protection. These challenges require **Think Global - Act Global**.

However, it has been well acknowledged that sustainability initiatives and urban planning processes may quickly go astray without the engagement and involvement of residents and local stakeholders. Misalignment with residents values and behaviours, or an unbalance in who benefits and who bears the costs, is likely to trigger resistance and alienation. Where this is an imminent risk, a better strategy is **Think Global - Act Local.**

And then, there are issues in cities that can more efficiently and more effectively be tackled at the grass-root level. Problems that revolve around

social cohesion, pollution, and the quality of daily living, as for instance, the <u>Cleaning Games</u> in St Petersburg. They can be tackled by mobilizing the problem-solving capacity of residents and local communities. Such issues require to **Think Local – Act Local.**

Why not also, Think Local – Act Global.

There are many inspiring examples where a small-scale initiative by one individual or local community snowballed into radical and global changes. Ubiquitous social media – going viral – helps, of course. But this is only the means and not the mechanism behind it. It works because such initiatives follow the rules of complex systems. Following Aristotle's principle of emergence: *One plus One is (much) Larger than Two*.

To trigger small changes for local issues that can escalate into greater solutions for global problems. Society calls for radically new solutions to bridge the gap between the local and the global. And the urban environment is the ultimate playground for such novel approaches like games.

In the words of Juval Portugali and Egbert Stolk (2016): Cities are complex systems composed of subsystems that are, again, composed of many elements such as citizens, businesses, houses, and public infrastructures. The elements in this system interact. The system starts to change due to incongruencies and tensions or in response to pressures from outside the system, the global changing the local. The city system is like a living organism that constantly changes and can even be seen as an act and being. The city is not merely a technical artifact – a piece of machinery. It is a living system that includes human actors that have values, intentions and emotions. Citizens, residents and stakeholders follow the rules of the system if these rules work for them. If they dont work anymore, they start to re-interpret and redefine them. If an idea that is successful evolves from this reinterpretation, it grows, becomes more powerful and can change the system itself. All big ideas once started small.

But what can ignite these changes, due to re-interpretation? In our opinion, one of the best representations for the **city** as a social-technical complex system is **games**. Complex systems are like black boxes. You can interact with them, but you cannot know how everything works exactly because of its complexity. A game is no different. You can be the best "World of Warcraft" player in the world, know exactly how to interact with the interface, but you have no clue what is behind this interface. All these lines of code that create the game are like the complexities in the city. You see the interface, like you see the city; you can play with the interface; in cities, you live in these interfaces, but you likely will not uncover the lines of code because of its complexity. Urban simulations and games such as **<u>Sim City</u>** have understood that very well. They used user-friendly interfaces to simulate the complexity of the city. Moreover, seeing cities as complex systems helps to get a grip on these complex systems and helps to explain why small and local initiatives and behaviours can sometimes escalate to solve larger problems.

But here, we face a ***participation paradox***.

Where the problems become more extensive, citizen participation becomes even more significant. Yet, at the same time, the willingness and capacity of citizens and residents to get involved tend to decline simply because the problems are too entangled and messy. Faced with a loss of control or perspective to change anything, it is understandable that some/many people (want to) give up.

This, in a nutshell, is one of the main challenges of participatory democracy and urban planning. How to reach out, engage, and mobilize citizens, raise awareness, boost sustainable behaviours and use their knowledge and problem-solving capacity – while some of their problems are getting more complex, entangled, to the point where people feel they are unsolvable. Games can help to get a grip on these complexities and keep citizens involved to deal with them.

Clean up game in St Petersburg. Players participate in the game in teams of 2 to 4 people. At the start they get equipment and then go to collect garbage. Teams get points for each bag of garbage they bring to the collection points. (Loffe and Ivanov, 2015)

Participation practices
(MUV Mobility Urban Values, 2019)

The 'NK tegelwippen (replace street tiles for greenery), cities compete against each other to turn as much stone into greenspaces as possible. (Gemeente Tilburg, 2021)

Think local, act global—the Un international day of the forests. In march countries from all over the world participate in the competition to plant as many trees as possible. Local actions. Global results. (Thirdman, 2021)

Generation Earth
Open Game Event in Palermo
(Public Play Space, 2020)

PLACEMAKING AND CO-DESIGN: FROM URBAN SPACES TO PUBLIC PLACES

" Nothing in the world is more simple and more cheap than making cities that provide better for people. "

- Jan Gehl

An ongoing subject of the role, definition and value of urban space and place continues to resurface. However, the public space is not yet a public place (Harrison and Dourish, 1996). This is due to space only becoming a place when endowed with value and meaning (Agnew and Livingstone, 2011). As a result, a place is shaped by what people do in the space and can be achieved through participatory practices and the theory of placemaking.

Participatory practices have the ability to structure co-design and co-habitation practices that can connect citizens with their environment and determine a process of transformation and re-signification; as stated by Harvey (2012). These participatory approaches support human-centred design strategies and ensure outcomes that meet the needs of the potential users of a place. Thus they generate benefits including citizen empowerment, increase of social capital and promotion of a sense of community (Sanoff, 2006). The participation of the citizens in the creation of public space through the theory of placemaking is fundamental, as it leads to results concerning the way they inhabit it, protect it and feel safe in it.

In this framework, it is then particularly relevant to describe the theory of placemaking, introduced by "Project for Public Spaces" in the '90s.: Placemaking refers to a collaborative process by which we can shape our public realm in order to maximize shared value, strengthening the connection between people and the places they share. It inspires people to collectively reimagine and reinvent public spaces as the heart of every community. With community-based participation at its center, an effective placemaking process capitalizes on a local community's assets, inspiration, and potential, and it results in the creation of quality public places that contribute to people's health, happiness, and well being. The concept of Placemaking describes today a well structured approach for

improving a neighborhood, city, or region (Project for Public Spaces and Metropolitan Planning Council, 2008).

Placemaking can represent a strong approach to participatory approaches for the public space co-design. However not all the participatory processes are placemaking actions even if, engaging community and building the citizen agency, they contribute to build the "sense of a place" and transform spaces into places.

Placemaking can then be put forward as a perpetual game that, in principle, does not need any interventions of others. It simply evolves and never ends. However, sometimes placemaking is perceived as a social or political problem as the transformation of spaces does not go in the desired direction, or at least not fast enough. Or, because there is a perceived gap between the potential and the actuality of the place.

When a neighborhood falls short in identity or atmosphere, where the urban space feels empty and meaningless, and residents are activated to do something about it, placemaking becomes an intervention strategy. When placemaking is institutionalized – by politicians, consultants, stakeholders, scientists – it turns into a planning approach. Placemaking becomes a reflective and methodological practice with concepts, methods, instruments, as well as businesses, think tanks, and associations.

The underlying theory of change relies heavily on citizen empowerment, participatory democracy, and community development theories. This essentially puts placemaking in the category of radical and critical (planning) theories.

Placemaking is often seen as bottom-up and grass-root. Radically different or even opposite to comprehensive and top-down urban planning. However, this can be questioned. The challenges in our cities are grand, complex, and long-term. But they are also small, practical, and daily. Therefore, we need the best of all strategies – we need to cover all four quadrants of the local-global thinking and acting scales simultaneously.

Placemaking is most effective when it is an integral part and consideration in urban and infrastructure planning. And vice versa, urban and infrastructure planning can and should also include participatory and interactive strategies with residents and citizens.

The ideas and practice of placemaking are not recent and relatively well-developed. But, there are a few good reasons to reconsider and review the approaches to placemaking, considering when and where we can innovate our tools and make them more effective. Participatory and interactive methods to planning and placemaking are far from easy, time-consuming, and full of risks. Many participatory placemaking initiatives have passed away, leaving behind their good intentions only.

Placemaking is really a local action, facing local situations and attitudes. It could be considered as an epiphenomenon of the right to the city as expressed by Lefebvre (1968).

Community Placemaking in Chicago
Amy Guth

▼
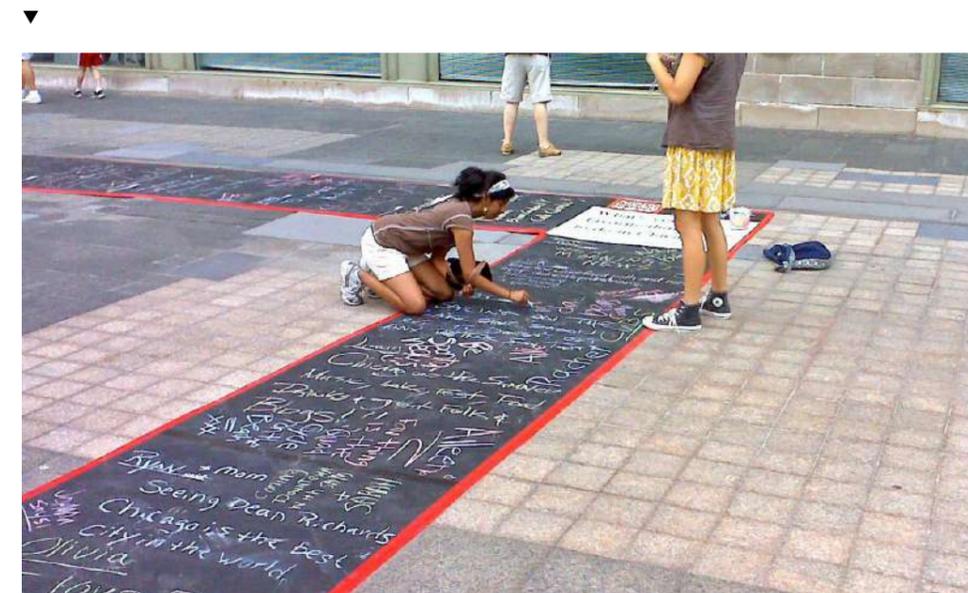
Playful Public Space activation
LLUM Project in Barcelona
(IAAC, 2017)

PLAY AND SERIOUS GAMES

" It is not the game but the playing that changes us. "

- The Authors

Play stretches out over many areas: theatrical and performing arts, media, sports, psychology and therapy, science and education, media and communication. In its seminal work "Homo Ludens", Johan Huizinga (1938) explains how play precedes culture - Homo Ludens, or Homo Puppy in English, shows us how frolic play is teaching children, like puppies, to understand how to play nice, learn and respect boundaries, and how these mechanisms form the basis of our socialization. People learn through play, and we never stopped doing that. This leads to play influencing culture — many of the rituals in science, politics, warfare and justice management, derived from play.

ON play

Because playing is as fundamental to humans as love (and hate), it has many different faces and escapes definitions. Different players are attracted to different kinds of play. Some like the excitement and thrill of a roller coaster ride. Others simply want to be the best. And again others, play to escape. The French sociologist and philosopher Caillois (1958) attempted to grasp the various manifestations of play. He first describes the dichotomy between Play and Ludus which characterises play. *Paidia* is the uncontrolled fantasy, spontaneous play through improvisation, the rules of which are created during playing time. Think of an open theatre, jam session, or a Life Action Role Play (LARP). *Ludus* instead requires effort, patience, skill, or ingenuity; the rules are well-defined before the game. Different forms of playing bring players into other states: *Agon* is the competition type of games (Chess or Quizes) where our skills and abilities are tested. *Alea* is the game of chance, the luck and randomness that can determine who the winner is (gambling). *Mimicry*, or mimesis, describes role-playing games (Dungeon and Dragons) based on imagination and make-belief. Finally **Ilinx** is the sense of altering perception by experiencing a strong emotion of panic, fear, ecstasy, that characterise play.

We could categorise the mechanics of play in several different ways, it follows one of the possible classifications, based upon our observations of a wide range serious games, that can be found on the PPS Wiki Community Platform (see part 2 of this book):

1. **Sensation** – feeling, touching, seeing, smelling > think of specific installations, playful art. Works through estrangement, wondering? > interactive installations, art as play,
2. **Emotion** – feel empathy with/for others, nature, feel connected to the neighborhood/community / the heritage, etc. > social games / location-based games, etc.
3. **Causation** – if this …then that! Seeing the whole long-term picture of the city/space, how it changes, and everything and everyone is connected. > simulators
4. **Imagination / inspiration** – how the [city / space / the future] can / could (also) be. > alternative reality games / narrative games
5. **Connecting** – creating new linkages between persons, groups, objects > social games
6. **Constructing** – creating and changing the physical world, the objects > construction games
7. **Destruction** – the emotion behind destroying something to rebuild it and start again. > trial and error games
8. **Mobilization or Activation** – creating conditions for change, take control > ownership games > strategy games
9. **Enabling** – giving the solution space and means to be an actor, have influence (empowerment) > educational games.
10. **Thrill** – giving the sense of not predictable situations, what happens in games is every time different > online action games
11.

Psychologists are well aware that children develop and grow through play. Vygotsky (1980) for instance, stated that a playing child behaves beyond his average age, above his daily behavior - as though (s)he is a head taller than him/herself. When children can learn by playing how to talk, draw, dance, know when to fight or run, explore the world, so can adults. And if adults can play in their private and social lives, they can also do it in their working life, as architects, planners, politicians, or CEOs. Or in their role as citizens or residents and not only for fun, but also to understand complex social-technical systems. Let me explain how: Nearly all adults become what we refer to as *game illiterate*. When we climb the ranks throughout our careers, we forget to play; indeed, we forget how to play. This makes gaming with adults all the more engaging, interesting, and compelling. If we understand how to design games that trigger the desired states, this can create societal value. Then, we are creating valuable serious games, this refers to the growing interest in the utilization of games for society, business and politics (Mayer et al., 2016). Serious games are effective because they take the professional, the manager, and the student out of their comfort zones. Our all-so-familiar world is suddenly viewed from a new perspective and discussed in a new and unfamiliar language: the language of games.

Unfortunately, many organizations are quite far from having the conditions required for meaningful play. These organizations are hierarchical, risk-avoiding and formal; everything is fixed in procedures and rules. Implementing games is likely to cause friction and tension in organizations. However, organizations need to learn how to play in an environment where games and gaming technology are becoming more pervasive. They need to become playful organizations and learning systems.

Organizations and complex systems can change in several ways. First, the system tries to find a new form of internal stability due to extreme pressures or crises. However, this can be a very undesirable new state – possibly a collapse of the organization or system. Second, an organization of a system can adapt through learning. But how does the organization or system know that it IS learning or that it is learning and changing in the right direction? Organizations and social-technical systems – like cities and neighborhoods – have a reflective capacity. In this reflective capacity, playing plays an important role. Playing with game, grant us entertainment. They give us pleasure, or whatever we would like to call it: engagement, fun, thrills. This is the intrinsic value of games: the value of gaming 'in itself' or 'for its own sake'.

We are best acquainted with the intrinsic value of games through our emotions and physical responses. When we play, we feel the excitement. Our heart rate goes up. We express our enjoyment by cheering and laughing. Sometimes we feel happy and connected, while other times, we can also feel tired, bored, frustrated, and angry. Children need to learn not to cry when they lose - play socializes.

but there is more than socialization. The pervasive playing of games can impact our brains and how we communicate, social behavior, culture, technological innovation, and so on. These effects are not intentional; they simply occur. We call this the external or spill-over effect of entertainment games (Xanthopoulou, & Papagiannidis, 2012).

 As it happens for all forms of art and culture, we, as a society, can benefit (or take advantage) from the intrinsic value of games. Games certainly show an interest in managing the external spill-over effects of entertainment games, whether this concerns the risks of addiction or aggression or the contribution of game technology and game culture to technological innovation and economic growth. The use and impact that games, play, and interactive technologies have on urban planning and place-making are also external.

Games do more than this, however: they also have an extrinsic value. The extrinsic value of games is pursued not for its own sake but for the sake of something else, especially for its beneficial consequences. Serious games use the technologies of games and the principles of play to achieve objectives that people value, not only for their intrinsic value— for the sake of entertainment—but for their extrinsic value: the external consequences of playing a game. Games are effective at creating immersion, engagement, and motivation. These are important conditions for learning change and are also at the basis of placemaking.

"Corporate Growth game "
(Nick van Apeldoorn, 2020)

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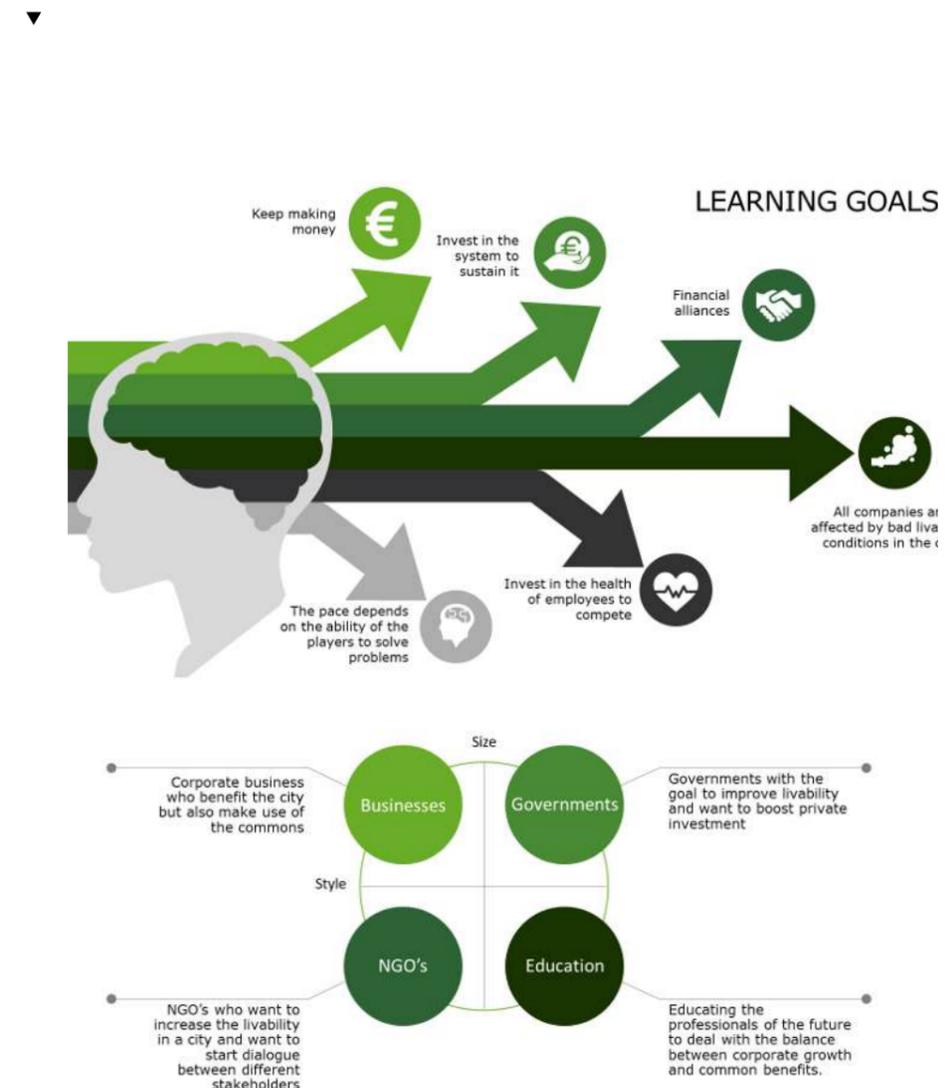
COMBINING PLAY AND PARTICIPATION

" Every place has a story. Every game tells a Story. "

- The Authors

If play can change complex sociotechnical systems, nothing is more complex than urban environments. It is therefore important to explore the role of play and games when applied to cities.

Cities are characterized by conflict. Sassen (1991) proves that cities have the capacity to "transform conflict into the civic" thanks to its complex socio-economic organisation and the capability to accommodate diversity. Similarly games define rules to engage players in a conflict that is artificial and results in a quantifiable outcome, such as a score or a winner (Salen and Zimmerman, 2004). Game activates a "magical circle" (Huizinga, 1938), a protected framework based on rules that allow a different kind of interaction between players allowing failure, free experimentation and change of individual point of view. Games therefore represent a powerful tool for those conflicts that characterise the public space. As suggested by McGonigal (2011), playful interaction and the use of Games can in fact support a real transformation of our habitat, as they support problem solving and co-design through a process of engagement. In fact, it can encourage active behaviour and motivate players to achieve certain objectives. As a result, games can be used as means of motivation for participation. Bernard Suits (1978) said "To play is the voluntary effort to overcome unnecessary obstacles". A part of a city's success is connected to the capacity to let people play and interact with their surroundings, a means of involving citizens in making voluntary efforts to overcome unnecessary obstacles.

There is another aspect that connects cities and games, and it is the blurring border between digital and physical world. Pervasive digital technologies represent a layer on the physical structure of the city, changing the urban experience and interaction. As proven by Baricco (2019) digital technologies

are ruled by logices that are profoundly connected to game. Mainly this happens because the digital world leaves no consequences of mistakes, and therefore in a digital framework you can learn behaviour by failing and testing. For this reason, play dynamics are crucial to describe and interact with an urban environment that merges the physical and the digital world.

On these bases, we can affirm that **participatory processes and placemaking techniques can be considered as games**. This is more clear taking into consideration some examples. For instance, in the "Planning for real", the seminal participatory technique developed by Tony Gibson, citizens are asked to build and interact with a maquette of a place to express their will. Participants are involved voluntarily, the planning for real lasts for a lapse of time, citizens act as the administration or like an almighty power, capable to build trees, benches, roads, and parks with an act of their hands. All these features made the "Planning for real" a playset. It is interesting to note that many games included in the wiki platform of "Public Play Space" are based on the same simulation framework of "Planning for real" but transposed in a digital environment.

Another example is the "Open Space Technology (OST) framework", a participatory technique developed in the 1980s by Harrison Owen, based on four rules and one law that can be intended as the rules of a game. In fact, they build a "magical circle" framework as it follows: the "Law of Two Feet" states that: "If, during the course of the gathering, any person finds themselves in a situation where they are neither learning nor contributing, they can go to a more productive place." The four rules state that:

1. Whoever comes are the right people
2. Whenever it starts is the right time
3. Whatever happens is the only thing that could have
4. When it's over, it's over

This last rule defines a framework of sense that ends without any real consequence. Meaning that during an OST you can argue with someone for something, but when it's over, move on. Furthermore, this methodology

applies the "Mimicry" approach, suggesting participants that they can act as insects - a bee or a butterfly.

The present-day context, well described by Baricco (2019) of the interconnection between physical and digital worlds, clarifies the identity of participatory processes and games. By adding digital features to participatory processes, the part of simulation of the processes becomes more clear. In the meanwhile this could be a risky situation. In fact, one of the main characteristics of games was expressed by one of the pioneers of game studies: John Huizinga (1939). He defined the act of playing as something different from real life and something that has no consequences in the real world. This feature makes games a really powerful tool because the game framework defines the players in a condition of real freedom in which they can express themselves without any fear. Remembering the OST laws, "when it's over it's over"! Therefore, the risk connected to the use of games is to consider the participatory processes as theoretical exercises without any real consequence.

When we speak about the experience of taking part in a participatory action, we can highlight that us very similar to a game experience**:**

1. Having the motivation to be or get involved. Feeling incentivized.
2. Knowing the place. Where it is. What and who are there. How it all works and relates, its (his)tory.
3. Feeling ownership or shared responsibility for the place.
4. Feeling interconnected with others with whom we share the place.
5. Having interactions and transactions with others. An exchange of values, ideas, and resources.
6. Having a shared vision, sense of mission, and a direction for the place.
7. Having the (cap)-abilities to change the place.
8. Feeling engaged and immersed during the process of change.
9. Getting rewarded during the process of change.
10. Having intermediate results and positive feedback to continue with.
11. Learn from mistakes. Change the rules or players if necessary.
12. Knowing how to deal with likely failures and setbacks. Perhaps, trying again.

13. Having the skill to design and construct ideas and artifacts.
14. Thinking in terms of options and alternatives.
15. Imagining a different future.

It is possible to affirm that participatory processes can comprise many steps and features. Some of them include holistically many features, from co-design to co-maintenance, from confrontation to problem solving and co-construction. Participatory processes are iterative and complex, they do not always follow a linear path nor always cover all the steps and features. The Placemaking process is able to include all of them, and is particularly useful here to support a description of the phases and features, and its connection to game and play.

The first step of a placemaking action is the definition and identification of a place by a community: an area has to be considered by a community as a place. This is strongly connected with the psychological geography as defined in the studies of Lynch (1960). Thus, every game that tries to define the boundaries of a place by a community could be intended as the starting point of a placemaking action.

The second step is the switch in the sense of a place by a community. A placemaking action promotes a transformation in use, in behaviours and in interpretation of a place by a physical transformation or not. This can only be possible by building a new point of view about a particular place. So every game that forces players to change their habits and to see places from another perspective are part of this step in the placemaking path being described.

The third step is more connected to participatory processes and techniques, as it focuses on building a common view of a place. From the point of view of a municipality or of an urban planner, this is the central point of the process, but in reality is only one of the steps. This action is complex, as while the common vision of a place is constructed, a community begins to form. Every game that is intended to help people to make a choice and to build a common view about a place is part of this stage.

The fourth step refers to the physical and is about the building of a place. This is a crucial point because it is the stage in which it is possible to see how many choices about the place are truly expressions of a community. It is really connected to self-construction practices. Therefore, every game that helps people in building something in a place can be part of this stage.

The fifth step is the last one or could be considered as a new starting point. It focuses on the maintenance of places. Mainly the placemaking actions are ephemeral and they do not last for a long period of time with the same configuration. In some cases they transform day by day under the continuous action of a community. This resilience attitude can be helped by games too. So, the games which help this attitude can be considered as the final stage of a theoretical placemaking path.

It is possible to put different participatory systems and games in a sort of framework that could describe a placemaking action. In the scheme below there is a chart that combines the steps of a placemaking action with selected games from the wiki platform and from the catalogue developed in the PPS project.

| My street ABC ... | I am Panel GUILT Urban Poem ... | Re-desire Kreyon city ... | | Civic Horse Hello Lamp ... | Clean Games ... | |
| Starting point | Changing the point of view | Building a common vision of the place | | Acting collectively to build the new place | Take care collectively of the place | A new start point |

"IAM Panel" project. Madrid
(Office of civic cooperative society & Civicwise, 2019)

THE MECHANICS OF PARTICIPATORY GAMES

" *A voluntary attempt to overcome unnecessary obstacles.* "

- J.B, Suits, 1978

As described, games and other forms of playful design can represent strong techniques for urban planning and community development. It is a well-covered application area of *serious games*. Other names for serious games can be preferred, such as simulation games, applied games, persuasive games, gamification, or even playful co-design.

The role of digital technologies in playful approaches to urban environments.

Emerging new game technologies open almost unimaginable, new forms of human interaction. Consider for instance:

1. Scale and density of player interactions – Fortnite & World of Warcraft
2. Spectator experiences – E-sports
3. Ubiquitous play – Games people play anytime and anywhere, Candy Crush
4. Extension and a-synchronization of game-play – Open-Ended Game Worlds like Runescape
5. The complexity and extensiveness of the game-world - Microsoft Flight Simulator & Minecraft
6. The data-drivenness and intelligence – Chess against a supercomputer
7. Embodiment Epic game's Meta Human Creator
8. Social presence – Roblox
9. Immersiveness – Social Virtual Reality like VR Chat
10. Mixing of physical, social, and digital reality – Pokemon Go

In digital games, the rules are endlessly complex and impossible to uphold by a referee or game-master in person. The rules are translated, put into computer code, and the artificial intelligence that ensures that everything in the game is done correctly and consistently. This makes

the rules consistent, but also shows the importance of creating rules that are just and unbiased. Challenges also come from other players, often competitors or opponents, but they can also be team-mates. These fellow players can be persons, but also a piece of code, an AI-driven avatar. The challenge can also come from within the player him/herself. You did not master something yet, but the game motivates you to try again and again until you master it.

If cities are like games and participation is like playing, how can we know what this participatory game is and how to design it?

Defining the challenge(s) is the first and most essential mechanic of game design. So, ask yourself what the main challenge in an urban participatory game is? Then, how can you design it? Games are a composition of principles and mechanics that compose the challenge.

Designing the meta-game

The principles define the **meta-game –** *the agreement among the players on what it means to play the game*. Here are a few guidelines:

1. Voluntary – *No-one can be forced to play a game.*
2. Commitment – *Stepping into a game, you commit to play it wholeheartedly.*
3. Over and exit – *The players agree how the game ends, and how players step out.*
4. You are who you play – *Try to see the world through another's eyes and commit to this vision.*
5. External power is irrelevant - *Playing golf with your boss, you are allowed to win, even if this means you beat your boss.*
6. Level playing field – *All players have a fair and equal chance. The game rules are unbiased.*
7. Safety - *The game has no negative consequences for the players or their social environment.*
8. Renegotiate what you think you know – *Change your method to complete the task, if business as usual doesn't work.*
9. The outcome of the game is negotiated – *Who loses the game, does the dishes.*
10. Acceptance of failure – *You are dead! Try again.*

Such principles are simply the ground rules. They are often not even explicit – because nearly anyone who plays games knows what they are. Just like in society, and if the ground rules are violated, you immediately feel it.

So, what are the ground rules for participatory games? Do they look similar to the ground rules of playing a game? What are the ground rules that define the voluntary participation of residents in placemaking and co-design processes ? When and how can they step out? Is the participatory game a level playing field?

Designing the game

The ground rules do not give much guidance on how to design an exciting game. For that purpose, we need insights into the different components, or mechanics, of a game. Game design is the careful selection and refinement of mechanics that fit well together to form a complex system. Like a living organism or a city, the game shows behavior that cannot be predicted from the different components alone. Aristotle's principle of emergence again.

There are thousands of game mechanics that can be identified. It is not necessary to consider them in-depth. The main challenge for participation is to identify the mechanics to trigger change and learning, and these mechanics can be found in many of the placemaking and participatory games we discovered in this project and collected in the "State of the Art CatalogueAll examples feature many of these aspects and some excel and specific mechanics.

1. **Challenge** – the difficulty of the challenge, the scaling, and leveling, how long it takes, if there is a clear ending or can the game continue.

For instance, the "**Corporate Growth" Game was defined in such a way that players could only progress if they managed to solve the problem that they were facing**. A good game gives players not more than they can chew; otherwise, people get demotivated.

2. **Narrative** – all great collective efforts of the human race started with a collective story. The storyline behind the game. How much imagination or fiction does that storyline have? Is it predefined, stimulated, or do the players create the storyline themselves while playing? "The Great Palermo" game, is a story-driven game in which players go on the hunt for the food stories of Palermo. Throughout the city, they have to learn about its history to answer clues and get the next hint.

3. **Alternative realities** – Does the game allow different storylines/ worlds in parallel, for instance, in the future, comparison between different worlds created by players. This is what Georgios Artopoulos did with his VR Game. Players can walk through a virtual environment to discover the to be renovated castle of Nicosia in Cyprus.

4. **Roles** – Does the game allow players to step into different roles of characters in a fictional setting? This is the power of the "SCITHOS" and "Redesire". Players could step into each other's shoes to understand the different interests of different parties to come to better collective solutions and gain a deeper understanding of the complexity surrounding public space.

5. **Action and interactions** – a game that does not respond, is not a game in itself or the game is over. A game that understood this particularly well is the Videogame Urbanism game. In this stunning-looking game, you can interact with virtually anything creating dreamlike cities in the process.

6. **Feedback** – what can the game tell you about the world, and what can we learn from it. The I Am Panel is a game that can be used as a playful survey where people can express their opinions, needs, and wishes, which can help to understand the space and contribute to making it better. A more elaborate game has been developed by Ekim Tan , a game developer by profession. One of her games is Play the Koepel. It offers stakeholders the opportunity to interact with each other and inspire them. Participants are actually building with different 'elements' for a possible future interpretation of the Koepel complex.

7. **Objects** – Making something with material things, a map, a poster, a model, etc. When playing, nothing beats a board game. Throw a dice, and you imminently feel like playing. This also works if the cubes are a whole lot bigger. The "Qurban Craft" game uses blocks in public space to make-shift new urban spaces that can be repositioned if wanted.

8. **Rewards** – how are the players rewarded. Internal consequences (fun); internal rewards (feeling of accomplishment, winning, level up), External consequences (a price, being on a high score list, a badge); external reward (the playing and outcome impact reality, status). The MUV (Mobility Urban Values) is a game that aims to stimulate active and shared modes of transport with the aim to get out of your comfort zone and favored active options. If people do well, they earn points and unlock new features.

9. **Intelligence** – does the game work with data and AI, to create the challenge and give feedback. During Breda's Creative Capacity Building Workshop, the winning group developed the concept 'Your-Backyard'. A game in which players and planners could propose locations open for change, people could hand in designs, and other players can score them or propose changes to develop the plan further. Decisions are analyzed with AI to learn what people perceive as important and train it to develop better cities.

10. **Aesthetics** – it is great if games are useful. It is better when the game is also beautiful and fun. Aesthetic is a strong feature of the Lumina Foresta installation developed by IAAC in the PPS project. Lumina Foresta is a deployable interactive installation that engages citizens in public spaces in a process of discovery, learning and co-design, focused on the topics of sustainability and re-naturalization of the urban environment.

Game genres in the urban space

Finding the best possible combination of mechanics to give an experience is very difficult. Of course, we have theories in practice – they state which

mechanics go well together and which ones do not. But what we saw is that overall, game designers also work from experience, and intuition. This is also something that placemaking can learn from game design. Theories and methods are a good and helpful start. But the most original and creative designs in place-making are found when we also promote creativity and intuition.

Genres and formats provide frameworks on how to combine mechanics. They are mechanics at a high-level. because they have repeatedly been used, we know beforehand what kind of experiences they give.

What are the well-known genres and forms that we use for participatory games? Have a look at the different genres on the state of the Art catalogue and wiki community. We see:

1. Simulators – The Sim-city type of games. They are excellent for seeing The Big Picture and how actions work out over a more extended period. These tend to be intellectual, analytical, and rational. Nowadays, also Digital City Twins.
2. Collective action games – Citizen science/resident apps. The player/user are interconnected to form a system that can create an intelligent output (solve a complex problem, report things in the public space to some authority, give data for analysis).
3. Persuasive games – Games as a communication medium that works via a change of beliefs, values, emotions, etc. They are often based on strong narratives, and rhetorics.
4. Constructivist games – Games that work through working with tangible objects, models of the city. The Lego, Co-design, Interactive Map Construction games or Minecraft type of games.
5. Sensational games – Games that work through our senses, like feeling, touching, smelling. Art installations.

Beyond genres and formats

But, we should also not be afraid to challenge a few theories and shatter a few methods. Consider a place as a dynamic, socio-technical system. As a game with challenges, with rules, players and roles. The neighborhood 'system' or 'game' shows specific behavior. If and when the players or rules change, the game will become different. Then we can and should question the questions about the participatory game and how we can change it.

1. What characterizes The Place as a Game System? Where are its system boundaries, and what rules drive the system?
2. Who are the Players? Who are the potential agents of change among the residents and citizens?
3. What are the overall objectives, world views, and value systems in the Placemaking *system game*?
4. How can residents and urban public authorities find each other through games and restore some of the trust that has been lost? Most people love to play.

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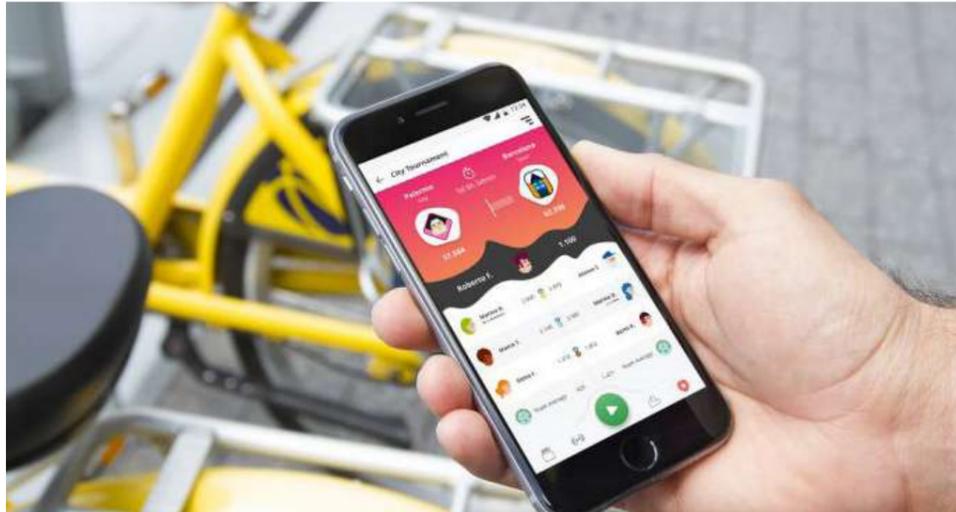
MUV Mobility Urban Values
(Palermo urban solutions Hub, 2020)

▶

Avatar Lineup. Roblox.
(Roblox Corporation, 2021)

▲

Above: "Play the Koeple" project, Breda (Play the City, 2018)
Below: "Minecraft 3D Model" of Dey Pukhu, Nepal, (Block by Block 2017)
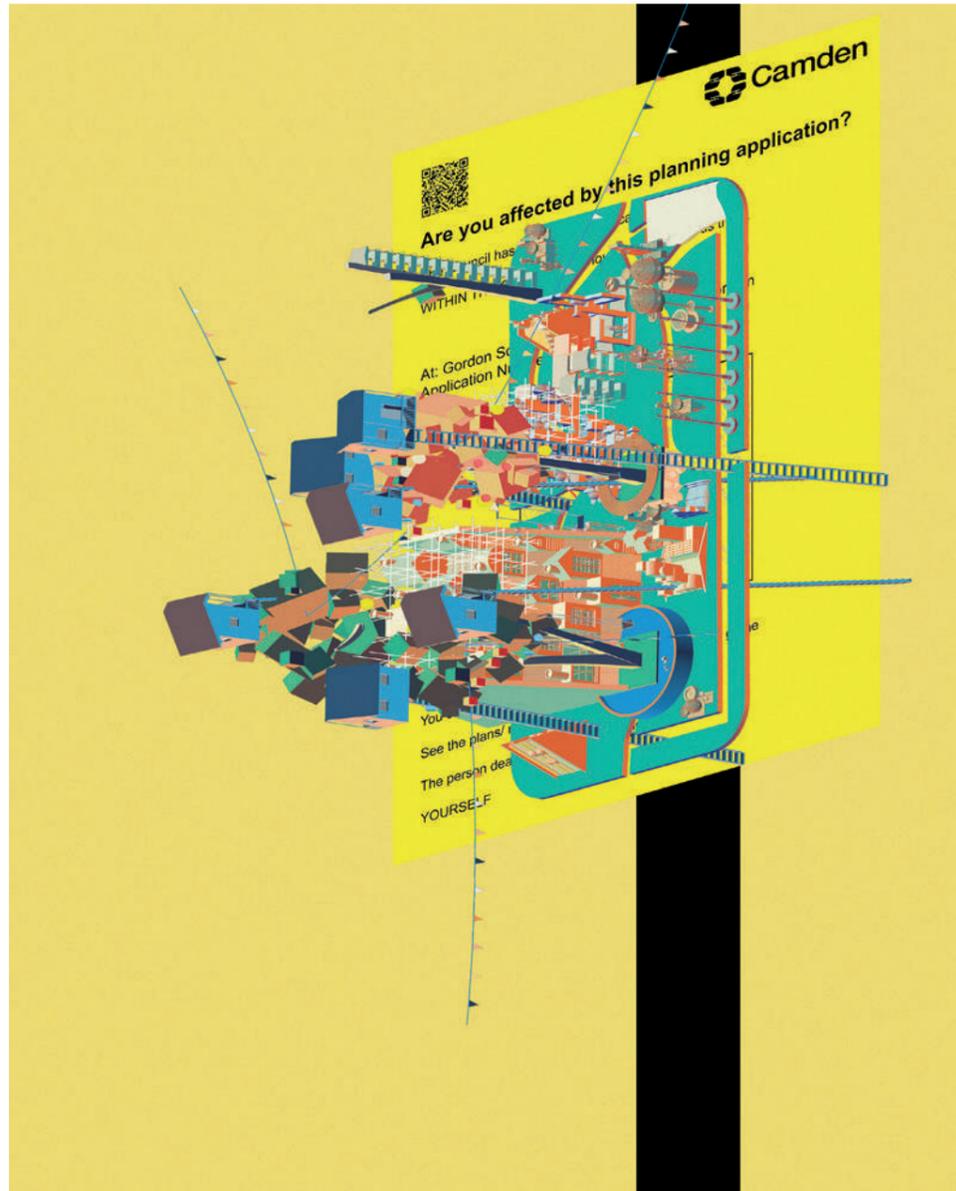
▲
"IAM Panel" project. Madrid (Office
of civic cooperative society &
Civicwise, 2019)

▶
"Fortnite" game.
(Epic Games, 2017)

▶
"Un Sacco di Palermo" project.
Palermo (Valentina Mandalari, 2018)

◀
"Videogame Urbanism" project.
London (you+pea, 2016)

PIECES OF THE
PUBLIC PLAY SPACE PUZZLE

" *Technological change defines the horizon of our material world*
 as it shapes the limiting conditions of what is possible and what is
barely imaginable. "

- Shoshana Zuboff

Thinking local, acting global, from urban places to public spaces, just for play or for people to stay, and if it's for stay? Which mechanics work to develop this kind of serious play? After two years of working on this project, we marveled at the possibilities of play for public space. We saw many great examples, and we started to unravel some of the mystique surrounding this topic. But, we also discovered that there are no simple recipes to turn an urban space into a public place. Also, not with games and play. But the potential of games is undeniably high, and as with every new and innovative field, not all pieces of the puzzle have yet been found. But in our search for these pieces of the puzzle, we identified these ten challenges.

1 - *Placemaking can only happen within the margins of what the world needs that space to be and what the people who live there need that space to be. This balance is becoming increasingly complex due to globalization and immersive technologies*

Historically, cities used to be smaller, relatively homogenous, and a place for commerce during the day and a place to come together in the evening. Places were the center of our communities, and these communities were relatively stable for the sole reason that people hardly moved, resulting in families who have known each other for generations. Due to this collective ecosystem, you have to get along. If a place was not working, people would slowly make iterations, resulting in these characteristic small cities and villages where people come together. Over time, the world became more connected due to trains, cars, and planes, all making demands on the public space. In the last twenty years, this interconnectivity accelerated further due to telecommunication and the internet. Now people need a

space to be green, with clean air, and parking spots in front of their house. But also, the social demands have become more complex. People still want spaces for social interaction but preferably with people like themselves. This is increasingly more difficult when lives are more individual, less depending on geographical location in heterogeneous cities. The paradox is that people still need a space to suit their needs but that these needs have become incredibly more demanding and complex. The question is how to deal with these complexities

2 - *Participation is seen as a solution to deal with these complexities but is often not representative or inclusive*

With "business as usual" participatory placemaking, the same kind of people often participate, and the same kind of voices are heard. These voices are often the loudest, and the elder- simply because these are the people that show up at "business as usual" participation meetings. This first people who show up, are the people who want change in their cities. these plans are often green and ambitious. but in the next participation meeting, when you talk about these plans. the angry participants show up. the ones that ideolize their cars. This results in places for kids to play turning into spaces for adults to park and places for people to meet in roads for people to drive. If you want spaces to be inclusive, you have to get a representative group of people on board. The Public Play Space project has been successful in exploring ways to engage a broad audience - by habit, by choice, by surprise - looking at game and playful interaction as a key lever. However, there is not a successful solution to address this challenge, and strategies should be designed according to local conditions such as culture, public space behaviour, political situation.

3 - *Games are seen as a tool to deal with this complexity, attracting a different audience and leaving the original group behind, but this might not solve the issue of representativity*.

We learned that games are an excellent way to involve people in participating and co-designing places in this project. But, just as business as usual participatory placemaking, these audiences are not necessarily more representative; they are different. This makes games a valuable addition to common practices but, if inclusive placemaking is the goal, they are not yet the answer. Games create these collective experiences that bring people together—opposed to business as usual participatory placemaking where every participant often enters the room with their own agenda. The collective narrative that games provide helps with this. If you want to add games to common practice, this does not mean it is going to be easy.

4 - *Few people know how to develop, build and facilitate games for participatory placemaking well and there is currently no "one cure fix all" game due to the complexity of urban spaces.*

Placemaking is highly specialized and revolves around very local issues. This makes a game that can assist in participatory placemaking hard to find and often ill-fitting to the local context. This does not mean that initiatives cannot be successful at what they do; they are just very hard to upscale. Especially since many games depend on an objective, rules, and citizen engagement, and with placemaking, the object, rules, and points of view from the citizens are almost always different. This, combined with the highly specialized skill set needed from game developers, makes large skill participatory placemaking through games challenging.

5 - *If you need a game next week, you will likely not manage.*

As challenges are specific, games are not generic, and developers are scarce, you need to be committed to using games for placemaking. You have to start early and have a clear goal in mind. The other challenge is to know where to find them. These small-scale initiatives are often not well described and not well advertised. We experienced exactly this problem when we started working on the project. We know games are there. They are just hard to find. To make this a bit easier, we started the Public Play

Space Wiki. A platform open to practitioners to exhibit their games and knowledge. In the last one and a half years, the wiki has been visited more than twenty-three thousand times, without any active advertisement. We won't claim that we solved this problem, but we did make it a bit easier and the momentum is there.

6 - *The momentum is there, and the expectations are high, especially for tech games.*

Games for participatory placemaking is a hot topic. In two years, eight interns, ranging from bachelor to master students, chose to investigate this topic for the project. If we send one of their reports to a municipality and more than once, they call back within half an hour, asking us to give presentations about this topic. Via via we were invited to speak at a conference hosted by Stanford University. High-profile speakers and around five hundred participants from all over the world participated in the final symposium of the Public Play Space project. It confirms that people are fascinated by these games and we have never experienced such an all-round interest in what we tried to do. It is worth mentioning that there was a particular interest in tech games. And tech games are a world on their own.

7 - *Technology and games can deal with big data, makes it understandable, and has some evidence-based planning*

One of the greatest promises of our age is the availability of data and our means to analyze it. However, much data is collected, but we struggle to turn data into information, information into knowledge, and knowledge into wisdom. And that is why we need to make data meaningful and invest back into the system to make it better and get more evidence-based urban planning. The big challenge is, people don't think in numbers; people think in stories. And games can do exactly that, turn numbers into stories and create a common ground to understand the provided wisdom, leading to informed decisions.

8 - *If someone will master tech games, it is big tech, but their aims focus on consumption and less on a sense of space.*

The big interest in digital games for participatory placemaking, the opportunities of big data, and the problems with scalability of analog games show the potential of these kinds of games and the chance that someone will master this. These chances are, however, that these are not going to be public institutions or social enterprises. The best spatial data, personal data, programmers, and algorithms are in the hands of big tech, and they have already started to make use of this. Pokemon Go was launched in 2016, making people come out of their houses and collectively play together. Kids, students, parents, and grandparents all participated. People met other players that they had never met before. This was a form of play that had never been seen on such a scale. This shows that the potential is great. However, we cannot be blind to the side effects. Companies paid the developers to place Pokemon gyms and Poke stops to boost consumption; in the end, Pokemon Go resulted in a money business, and games developed by big tech likely will be as well.

9 - *Artificial intelligence, and big data are often seen as the solutions due to the incredible opportunities for finding interrelations and comparisons.*

But artificial intelligence and big data do well with abnormalities, while it is these abnormalities that turn spaces into places by connecting to these local identities. Aiming for big data and artificial intelligence to facilitate placemaking might be naive. This makes it likely that now and in the future, we cannot only rely on technology to solve this problem for us.

10 - *Expectations are high for tech games, but we have not even mastered the analog possibilities yet.*

In our age, technology is often perceived as better. It is new, innovative, and the possibilities are endless, but we should not forget that we have not even mastered the analog potential yet. And it is also these analog games that have huge potential. Analog games are more flexible and cheaper to make, and if you put a dice on the table, people immediately start playing. Analog gaming comes naturally for people because everyone can do it,

unlike digital games. But maybe the biggest plus is, technology is not good at understanding human emotions, and placemaking is all about the sense of place that derives from these emotions. Probably the most sophisticated map in the world is Google Maps, but if you ask Google, what makes this place special, it won't be able to answer you. This is different from analog games because it is just people playing together and often a game leader who is facilitating these playful interactions. And that is why analog games currently have the upper hand in games for participatory placemaking. But, the main challenge is, it is labor-intensive and hardly scalable. Technological games however, are much better at processing hugh amounts of data. if they also have a facilitator to translate the emotions into numbers and the numbers into emotion, hybrid games are exciting pioneers is exploring the potential for place making.

These ten missing pieces of the public play space puzzle show the challenges that we still need to overcome to make this exciting new and innovative field live up to the promise it holds within it. This does not mean that it will be easy, but the collective effort of academics, game designers, and enthusiastic practitioners has brought us as far as we are now. Also, interest in this topic only seems to increase, and people are curious to figure out the future of games. What will this be? Only time will tell. If you want to know more about the experience of all the participants that worked with us on this project over the last two years we strongly encourage you to read the second part, the Public Play Space Experience book.
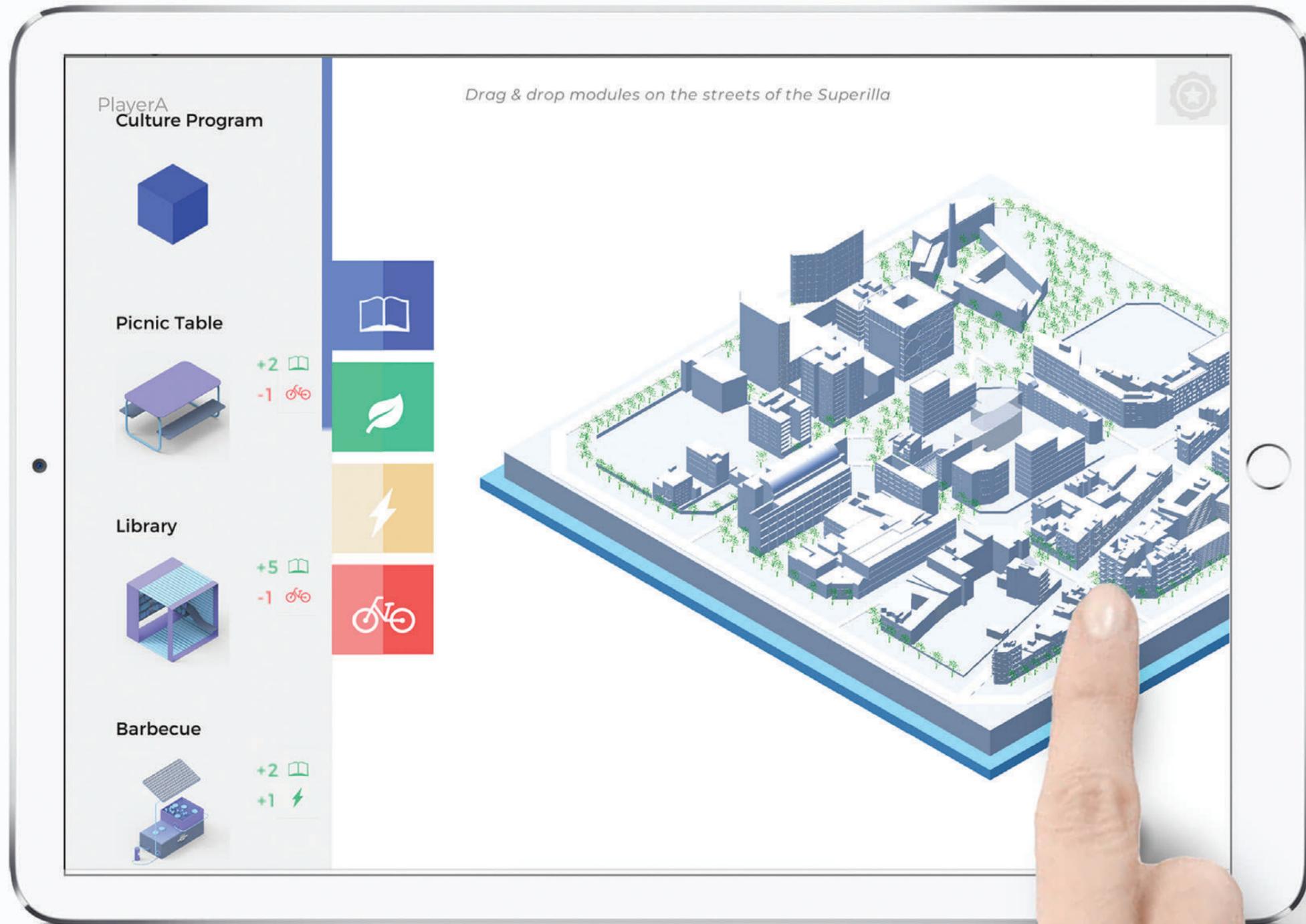
THE PUBLIC PLAY SPACE OPEN METHODOLOGY

THE PUBLIC PLAY SPACE
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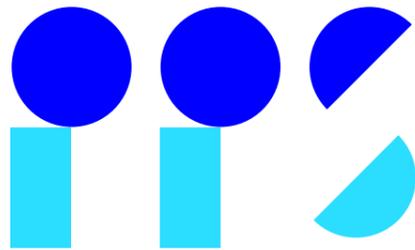
Public Play Space has been developed by an international consortium composed of the IAAC - Institute for Advanced Architecture of Catalonia (Barcelona, Spain), BUAS - Breda University of Applied Sciences (Breda, Netherlands) and CLAC lab (Palermo, Italy).

The Institute for Advanced Architecture of Catalonia is a centre for research and education in the field of advanced design, with the mission of envisioning the future habitat of our society and building it in the present.

BUAS - Breda University of Applied Sciences is a higher education institute within the domains of Games, Media, Built Environment, as well as Facility, Logistics and Tourism.

CLAC is a civic-based cultural enterprise with expertise in participatory projects, events development and creative fields.

Public Play Space built an interdisciplinary and international community, with an open and inclusive approach, for a deeper interconnection among architects, digital artists, event designers, cultural operators, institutional stakeholders and active urban society. Local expertise and professionals were involved in all the activities, in order to enhance multicultural engagement and develop audience engagement.

PUBLIC PLAY SPACE

RESEARCH METHODOLOGY AND ACTIONS

The project was articulated into a series of actions, targeted at exploring the process of development and use of innovative technologies and games for public space co-design.

- **The State of the Art Catalogue** represents the first action, collecting and analysing 30 best-practice case studies, offering a clear panorama of the emerging methodologies and strategies for the public space co-design through games, playful interaction and digital technologies.

- **The Creative & Capacity building workshop** held in Breda, Palermo and Barcelona, open to students and professionals interested in placemaking, empowering their professional skills in co-creation stages, and building their capacity to further attract diverse audiences by habit / by choice. With a learning-by-doing methodology, workshops were also creative processes, where students developed proposals and projects towards the production of inclusive, cohesive and sustainable public space.

- **The Open Game Events,** held in Breda, Palermo and Barcelona, which put in practice the expertise gained and the knowledge developed in the project. Each event engaged stakeholders, experts and citizens in a process of co-design of the public space through games, playful interaction and digital technologies

- **The PPS International Symposium,** taking place online in July 2021, fostered an academic-political dissemination of the work developed in the project, sharing knowledge and bringing experts and international stakeholders in a common place for discussing about the relationship between gaming and placemaking.

- **The PPS Virtual Exhibition** is an online platform guiding visitors through the different actions developed by the project: a continuous and multidisciplinary process of exploration of new methodologies and practices open to different city actors such as designers, policymakers, experts and citizens. The content generated during the whole project is displayed, bringing together methods and tools for games, playful interaction and placemaking.

1 STATE OF THE ART CATALOGUE
DECEMBER 2019 - FEBRUARY 2020

2 PLACEMAKING THROUGH GAMIFICATION
BREDA
23-25 JANUARY 2020

3 MAKE YOUR GAME
PALERMO
16-18 JULY 2020

4 CO-DESIGN FOR CO-HABITATION
BARCELONA
28-30 SEPTEMBER 2020

CREATIVE & CAPACITY BUILDING WORKSHOPS

5 GENERATION EARTH
PALERMO
26 OCTOBER 2020

6 LUMINA FORESTA
PALERMO
12 MARCH 2021

7 SMART GAMES TO SMART CITY PLANNING
BREDA
1 JUNE 2021

8 PPS INTERNATIONAL SYMPOSIUM
ONLINE
14-15 JULY 2021

9 LAUNCH OF PPS EXPERIENCE BOOK
SEPTEMBER 2021

OPEN GAME EVENTS

THREE STRATEGIC ASSETS

The research methodology of Public Play Space has been shaped to address -and rely on- three main strategies: Capacity building, Audience Development and Transnational Mobility.

CAPACITY BUILDING

TRANSNATIONAL MOBILITY

AUDIENCE DEVELOPMENT
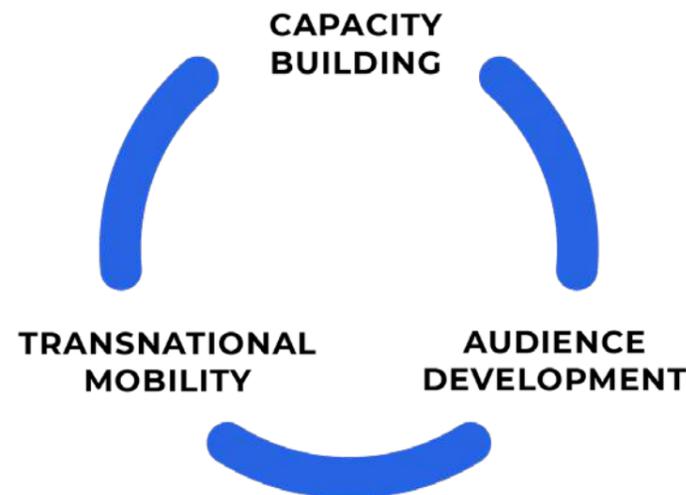
Capacity building lies at the core of the PPS strategy, targeting both ordinary citizens and experts - architects, designers, game developers and city authorities- aiming to provide them with all the necessary skills for developing participatory design processes of the public space.
Despite the different audience of each action, all of them were carefully designed to enhance capacity building for the targeted group; on the one hand to address the educational objective, on the other hand to collaboratively develop new approaches and methodologies for participatory design,

counting on the important contribution of different members' background and individuality. In fact, the process of capacity building has been based on a learning-by-doing methodology, fostering interaction between all the participants, despite their diverse background and levels of expertise, inside the public space environment itself in order to adapt and learn. Through a *creative capacity building* approach, ideation and learning went hand in hand, enabling an horizontal and iterative process of research.

To achieve a representative and diverse participation, **audience development** strategies were implemented throughout the whole project. PPS actions put forth a comprehensive mix of community engagement together with behavioural change triggers, and deployed capacity building actions to familiarize decision makers, designers and citizens with creative space-making and active participatory design processes of the public space.

Next to using and learning from existing and well established serious games to enhance participatory urban development processes, the project merged new ways of communication, education and capacity building fostering the use of games and digital arts and tools. Events design and implementation made use of video games, digital arts and gamification strategies to engage the citizens, widening the potential audience of participatory design processes, thus overcoming the limits of conventional methodologies.

PPS directly engaged people and communities in experiencing, enjoying placemaking through digital arts and gaming. The effectiveness was informed also by the strategies and lessons learned throughout the state of art catalogue open call and desk research. The target group of Public Play Space actions was not limited to professionals coming from the field of architecture, design, gaming and participation, but was open to a multilevel audience, articulated into:

A MULTISCALAR AND MULTIDISCIPLINARY IMPACT

- **Audience by habit**: City authorities, policy makers, architects, public space designers, game developers, people that usually attend public space design meetings
- **Audience by choice** : Neighbourhood associations, architectsture, designers and gaming students, people or organisations that lack the opportunity to attend public space design meetings but they have the interest, and feel qualified.
- **Audience by surprise** : Ordinary citizens and young people, including migrants, who are not common participants in public design meetings. This target group can be characterised by a feeling of exclusion or inability, that the project wants to contradict.

Transnational mobility is the third pillar of the PPS strategy, carried out not only with the exchange of experts between the consortium partners, but also with the exchange of cultural experts and students from the 3 associated cities (Barcelona, Palermo and Breda).
Moreover, the intense digital presence of the project -website, video streaming, social media- and its two major publications (State of the art and the PPS experience book) are substantial to transfer the project's results to other cities, and to cultural and artistic activists in Europe.

Public Play Space proves that digital and non-digital ludic practices in public spaces offer countless untapped potentialities for promotion of active, responsible forms of citizenship, awareness-raising on key sociocultural and political issues and promotion of more participative public space design and development processes.
In the **short term** of each action development, the project supported locally the creation of a collaborative partnership between partners through the design and organisation of cross-sector initiatives at the intersection of design of the public space, gaming, and gamification strategies. Moreover, it represented a framework to bridge the gap between citizens and public space designers by offering the space and the tools for exploring new dimensions in public space design practices through the open game events on creative city-making.
In the **medium term** of the project development, PPS promoted a field of exploration to bring knowledge to the urban design field, developing strategies to let non-specialist audiences to learn and experiment with public space design, it contributed with visions to transform city knowledge into a civic action by increasing the engagement of a wide range of audiences through capacity building workshops, open game events and exhibitions that make them reflect on the public spaces. Moreover, it promoted strategies to boost knowledge creation on how gaming tools in combination with advanced digital technologies can be used to enhance the understanding of the relationship between spaces and their users.
Finally, in the **long term**, the PPS project aims at offering integrated visions of city design that encompass the interaction between game design, public space design and socially relevant issues such as public space rehabilitation, innovation, integration, inclusion and civic engagement. Furthermore it aims at promoting new dorms of active, responsible citizenship, thanks to the capability to raise awareness on key sociocultural and political issues, and the promotion of more participative public space design and development processes, through digital and non-digital ludic practices in public spaces.
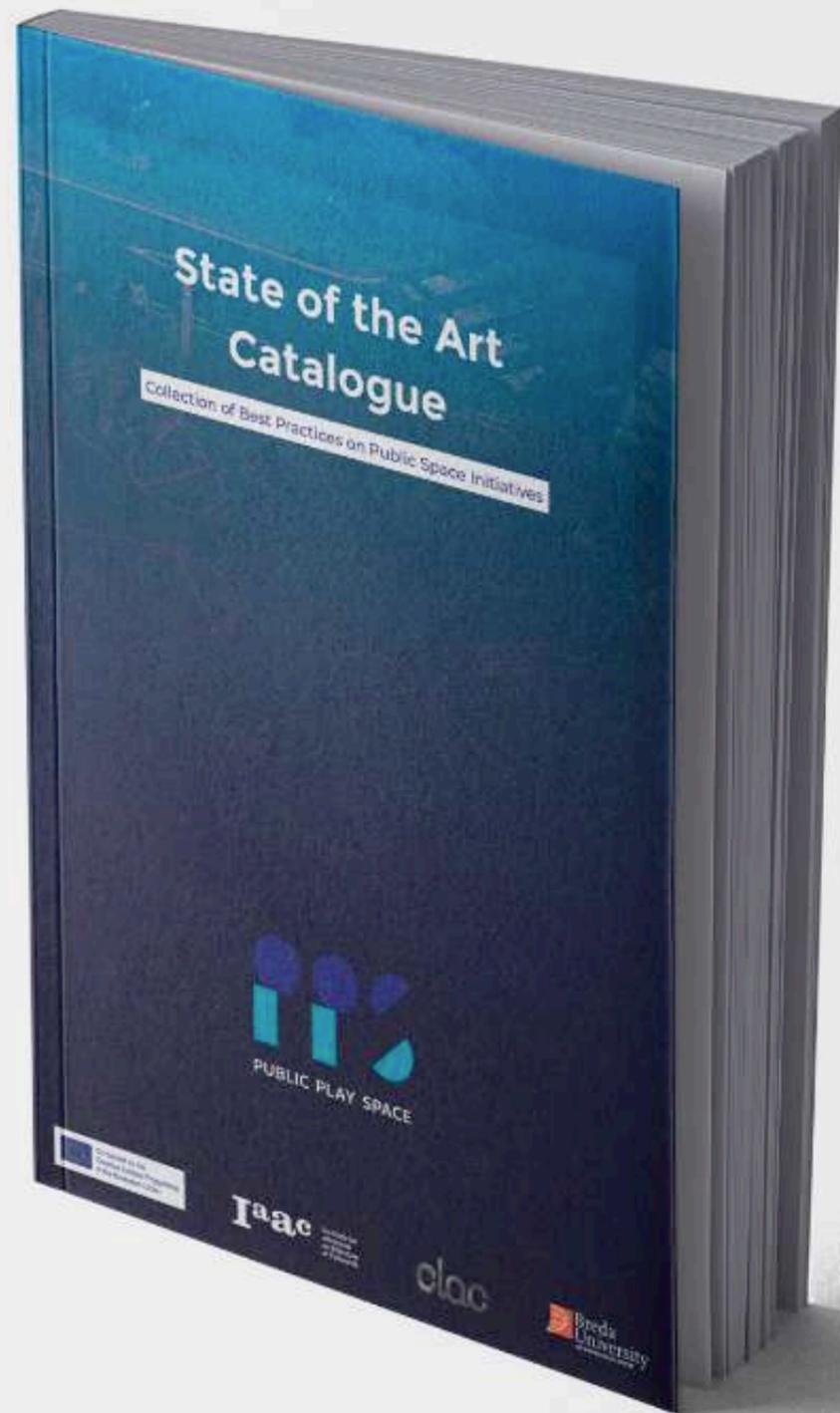
STATE OF THE ART CATALOGUE

The State-of-the-Art Catalogue collects and analyses 30 best-practice case studies, offering a clear panorama of the emerging methodologies and strategies for the public space co-design through games and digital technologies. The Catalogue projects selected from the the results of an Open Call launched in December 2019 and from a competitive desk review selection developed by the PPS project partners.
With the objective of increasing the audience of the research, sharing the results with a wider public and engaging more experts in the process of collection of best practices, case studies, the PPS project launched the **Public Play Space Community Platform**. The platform is an open source online wiki platform, open to the contribution of more researchers. The aim, to develop a deeper knowledge on emerging methodologies and experiences, innovative technologies and games for public space co-design.

Methodology
In order to better orient the readers' understanding in relation to each best practice, and the plurality of approaches in tackling these challenges in public space, the projects have been clustered in 4 parts:

- Environmental Awareness
  Focussing on the implications and understanding of environmental iImpact on our day to day engagement with public space;
-
- Collective Design
  Fostering collective creativity to identify challenges in the use of public space and respond to these through citizen engagement
-
- Storytelling and Learning
  Emphasising the possibility of learning from the public space we inhabit and deepening our understanding of the underlying cultural and social complexity and values of these spaces;

- Decision making
  Prioritising the urgency of concerns related to public space and facilitating the actuation of a response to these.

Projects are analysed and described using an innovative framework, articulated into 3 concentric levels of analysis and categorisation. This analytical approach allows a deeper understanding of projects that shows a high level of complexity and sophistication, enabling the reader to extract learnings on the different impacts and strategies. At the same time, this categorization enables the reader to navigate the project according to different features, actions, and properties that characterize them.

The first level of analysis describes the project based on the three categories of *Space, Game and Play*.
- *Space* Represents the spatial scale in which the project is executed and its audience.
- *Game* Represents the project's main purpose.
- *Play* Represents the instruments used in the best practices.

Three sub-categories are identified for each one of them, and they are finally further described in a third level of analysis.
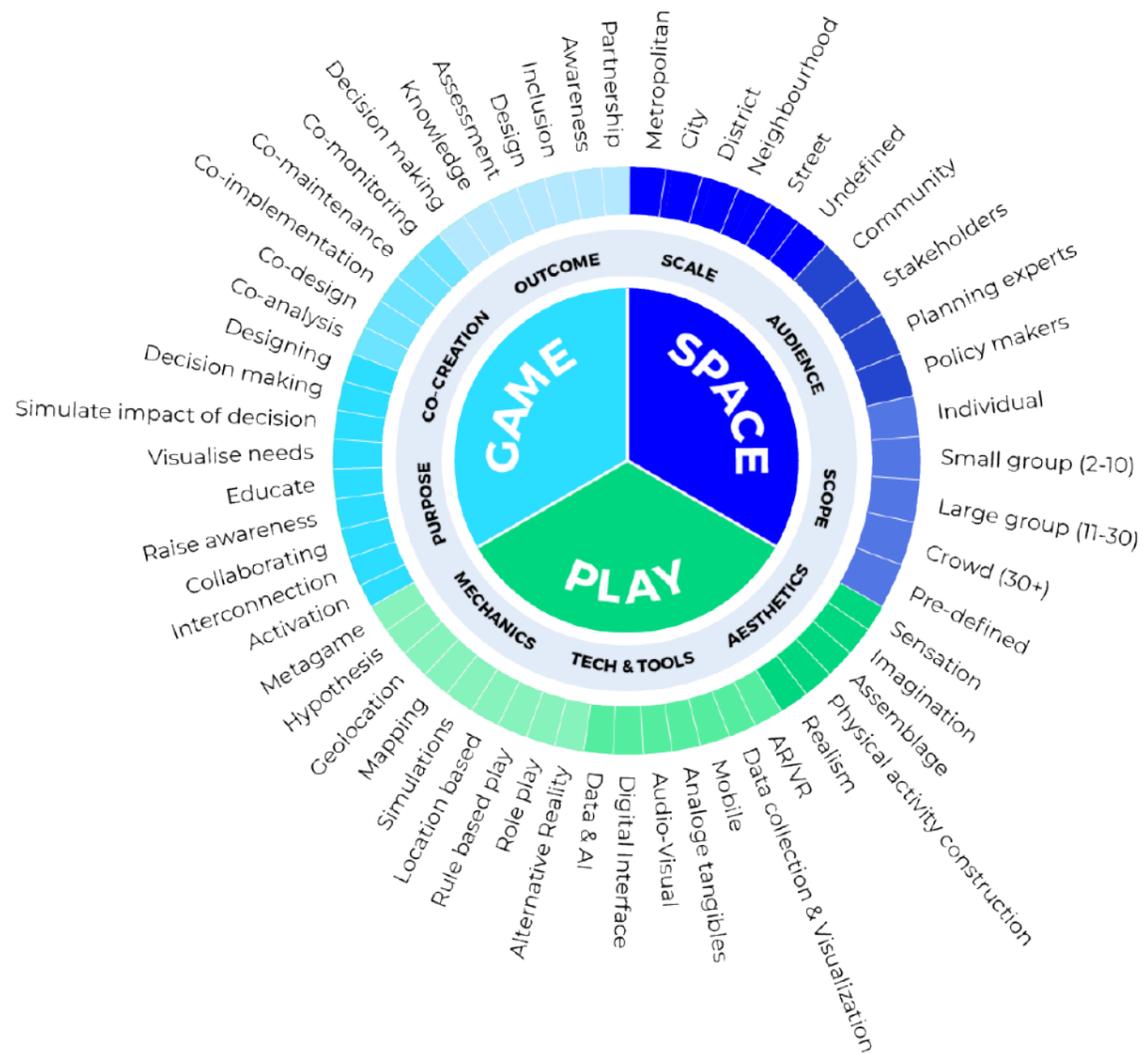
GAME

PURPOSE: The project's aim.

Activation - The project aims to activate the public space.

Interconnection - The project aims to connect the audience.

Collaborating - The project aims to encourage the audience to work together.

Raise awareness - The project aims to raise awareness.

Educate - The project aims to teach the audience about certain topics.

Visualise needs - The project either documents the already known needs or finds out what the needs are.

Simulate impact of decisions - The project aims to test decisions, ideas, and creations in a simulation.

Decision making - The project aims for the audience to make decisions.

Designing - The project aims to make a design. This can be a vision, a masterplan, and/or brainstorming sketches.

CO-CREATION: Co-creation is the development of a new game, outcome, concept or purpose with citizens, stakeholders, a community, policy makers or planning experts.

Co-analysis - Collaborative analysis of the existing dynamics of the public realm.

Co-design - Collaborative development of design solutions for the public realm.

Co-implementation - Collaborative implementation of certain actions (as for example installations)

Co-maintenance - Collaborative maintenance of the public realm based on project's mechanics.

Co-monitoring - Collaborative monitoring and analysis of the public realm based on project's mechanics.

OUTCOME: The projects results.

Decision making - The project results in decisions.

Knowledge - The project results in the audience gaining knowledge.

Assessment - The project results in an assessment.

Design - The project results in a design. This can be a vision, a masterplan, etc.

Inclusion - The project results in inclusion of the community.

Awareness - The project results in awareness for the situation discussed among the audience.

Partnership - The project results in a partnership among the audience.

PLAY

MECHANICS: Mechanics are the rules which the user and producer of the game follow. They react on responses of the user's action, and define the way the game will be played. Mechanics can be seen as the action within and upon a game. (Boller, 2013)

Alternative reality - An alternative reality in a game can create a different environment where common held beliefs like the sky is blue can be challenged or changed. Alternative reality can also be explained as a parallel universe (Alternative reality, n.d.; Cambridge dictionary, n.d.).

Role play - The audience of each play the role of a stakeholder in the project.

Rule based play - Rule based play can include adapting rules to each play situation by means of negotiation. (Mraz, Porcelli, & Tyler, 2016)

Location based - The project is bound to one or several locations.

Simulations - With simulations the project can recreate real life events and do tests without harming or influencing the actual situation (Encyclopaedia Britannic, n.d.).

Mapping - An operation that associates each element o f a given set (the domain) with one or more elements of a second set (the range) (Lexico, Oxford dictionary, n.d.).

Geolocation - Geolocation allows the user to identify an object in it's real location by means of radar, internet source or mobile phone. (Lexico, Oxford dictionary, n.d.)

Hypothesis - A hypothesis is a proposed outcome made up from limited knowledge and facts.

Metagame - A metagame is a game in which the action done by the player surpasses the set out rules for the game. This means that the player can go beyond the environment set by the game (Patchryan, 2016).

TECHNOLOGY AND TOOLS: Technology and practical tools enabling the game experience and functionality.

AR/VR - Project uses Augmented, Virtual or Mixed Reality. With AR and MR, 2D or 3D computer-generated data and information are overlaid on the real world view (Kounavis, Kasimati & Zamani, 2012. pp. 1-2).With VR this data and information generates a computer simulated environment, detached from the reality. VR provides the effects of a concrete existence without actually having a concrete existence (Beck, Rainoldi & Egger, 2018; Desai, Desai, Ajmera, Mehta, 2014).

Data collection and visualization - Project collects Data on the users' behaviour and experience and can be visualised thanks to several techniques.

Mobile - The project makes use of a mobile device such as a smartphone or a Tablet.

Analoge tangibles - The project makes use of non-digital tools.

Audio-visual - The project makes use of images/video and/or sound.

Digital interface - Project makes use of digital video or audio devices through which the user acts in the game and/or interacts with other users.

Data and Artificial Intelligence - Project collects Data on the user behaviour and processes it thanks to Artificial Intelligence tools to interact with the users' behaviour.

AESTETICS: The sensory aesthetic of the game (Niedenthal, Simon, 2009)

Sensation - The sensation of a game can be felt when playing the game, whether these are moderate or 'dramatic' emotions.

Imagination - Imagination is the ability to form new images or objects without an example to follow.

Assemblage - Assemblage of a game is the collection of the objects to make the game functional or to complete the objective.

Physical activity construction - The project is set in real life and requires physical activity like for example a scavenger hunt etc.

Realism - The project has features that look like or are real life.

SPACE

SCALE: The level on which the project will be developed and implemented.

Metropolitan   Neighbourhood

City   Street

District   Undefined

AUDIENCE: The assembled spectators of the project.

Community - The condition of sharing or having certain attitudes and interests in common.

Stakeholders - An individual, business etc. with an interest or concern in the project.

Planning experts - A very knowledgeable about or skilful in the project or particular sub focus area of the project concerning urban planning.

Policy makers - An individual responsible for, or involved in formulating policies that affect the project.

SCOPE: Targeted or untargeted group that the project will effect through delivering on specific needs.

Individual (1)   Crowd (30+)

Small group (2-10)   Pre-defined

Larger group (11-30)

LESSON LEARNED AND RESEARCH OUTCOMES

The development of the catalogue represented a solid foundation for the project, from several points of view, proving the appropriateness of a similar action at the very beginning of the project implementation. Firstly, it enabled a process of discovery of experiences developed by designers, game experts and cities from the entire world. Secondly, the open call impacted positively on the audience development, ensuring a good exposition of the project to the public and creating synergies between the consortium and external actors and stakeholders operating in the field. In the third place, it allowed systematization of these experiences, making them transferable and building capacity for the consortium, the participants to the activities, and the public in general.

The catalogue, and its wiki digital version, empowered the reflections and project development during all the following actions of the project, offering a theoretical framework and a formidable toolbox.

◀

Figure X:
Urban Living Lab Playground Game,
(Brussels, 2018)

State of the Art Catalogue

Collection of Best Practices on Public Space Initiatives

PUBLIC PLAY SPACE

Breda University

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display
TODAY
MODEL

TU-North

Banks of

■ Too hot

Un sacco di Palermo

Author: Valentina Mandalari
Location/Year: Palermo, Italy, 2018

"Un Sacco di Palermo" is a modular pedagogical kit conceived as a toolbox to help teachers and educators to introduce in primary and secondary schools curricula the sensitive topic of Palermo's recent urban development, highlighting the repercussions that affected the life of the city at all different levels and facilitating the individuation of its present resources.

The modules of the kit address environmental, urban, and social consequences of the city's unregulated development during the so-called "Sack of Palermo". This was a complex set of events begun in the 1950s, marked by the connivance between politics and the Mafia, engendering an urbanization process in which the individual interests have been given priority over the collective ones. In this framework, the main goal of the kit is to enhance the comprehension of the contemporary urban production processes and stimulate the development of a critical point of view on them, fostering children to participate in formulating new visions for the city.

The development methodology consisted in a set of focus groups with school teachers, game design and playtest sessions conducted in 3 public schools of Palermo coastal suburbs with students of 8-12 years old, engaging children in the process of conversion of scientific information into games and activities. The whole game design and playtest phase has been assessed through questionnaires and qualitative evaluations filled in by both students and teachers. A final session of training has been organized for teachers of the schools, with a training of trainers approach in order to make teachers totally independent in using the kit and implement the activities.

"Un Sacco di Palermo" project has been promoted by the European nomadic biennial Manifesta 12 Educational Department in partnership with the Urban Ecomuseum Mare Memoria Viva of Palermo and has been developed by a multidisciplinary team of architects, scientists and game designers.

It has been distributed for free in public schools and it's included into the educational offer of the Urban Ecomuseum Mare Memoria Viva.

GAME
PURPOSE
CO-CREATION
OUTCOME

PLAY
MECHANICS
TECH & TOOLS
AESTETICS

SPACE
SCALE
AUDIENCE
SCOPE

CREATIVE & CAPACITY BUILDING WORKSHOPS

CREATIVE & CAPACITY BUILDING WORKSHOPS IN BARCELONA, PALERMO AND BREDA

The workshops were aimed at target groups of professionals coming from the fields of architecture, design, digital arts, as well as city authorities and stakeholders, interested in placemaking. The objective was to empower their professional skills in co-creation stages, and build their capacity to further attract diverse audiences by habit / by choice.

Workshops were thematically linked to different aspects of the placemaking process, in particular Co-creation and gamification strategies to engage audiences, Advanced Technologies to boost community decision making and placemaking, and Human-centred design for placemaking. Taking place over three days and open to 20 participants, selected with an open call, each workshop was led by the local partner of the consortium, and developed with the contribution of the other two members. Workshops were articulated into teaching sessions, lectures, and co-creation phases, based on a learning-by-doing methodology.

Common Educational objective was to ensure that Each participant would gain a deep understanding as well as methodological tools on how to use play and digital technologies to engage users and new audiences, creating an immersive and attractive experience, and to co-create public space that responds to citizens' needs and desires.
However, the brief and the related challenges were different for each workshop. On the one hand this allowed the consortium to adapt to the local context, tailoring educational strategies and creation frameworks to it. On the other hand, it allowed to cover a broad range of topics and aspects of the research focus, building a collective and multilayered knowledge.

Creative & Capacity Building Workshop in Breda
Placemaking through Gamification

From the 23rd until the 25th of January 2020, the first creative capacity building workshop was held in Breda, led by BUas. Within the workshop, three multidisciplinary teams focused on the question: "How can innovative games with the use of advanced technology boost communal decision-making when it comes to placemaking? ".

The municipality of Breda functioned as a client and gave the introduction into the area and gave a masterclass. The main focus of the workshop was therefore to encourage new initiatives of advanced technologies to enhance community decision making and participation for placemaking. This was achieved through the integration of students and young professionals with a background in either built environment, logistics, gaming, or tourism. In total, 20 students and young professionals participated and were supported by 12 experts from the fields of urban planning, architecture, social involvement, placemaking and gaming.

Participants were asked to develop innovative and inspiring ideas, visions to address the brief of the workshop. The consortium agreed with Breda municipality evaluation criteria in relation to the innovativity and implementability of the project, thus informing the feedback sessions and chasing down cutting edge solutions.

Capacity Building and training sessions were organised throughout the entire three days, alternated with feedback sessions on the project, avoiding a vertical structure based on a linear consecution of educational sessions followed by practical ones. Site visits were organised with the consortium team and the local experts.

The case study suggested for the workshop is the inner ring of the city of Breda, an interesting public space permeated by mobility axis and green and blue infrastructures, which is currently lacking amenities and interactive spaces, and is therefore in the need of a placemaking action. However, participants had the possibility to suggest alternative locations for their projects.

An interesting challenge in a city like Breda was to promote patterns of usage of the public space that were more continuous and could go beyond seasonality.

DETAILED PROGRAM

On the first day, Thursday 23rd, participants were introduced to the concepts behind the creative capacity building workshop and the Public Play Space research. Consequently, the municipality described in depth the challenges of the workshop.

During a site visit, the scientific personnel of the project gave different masterclasses. Marco Ingrassia did a presentation about placemaking, Davide Leone gave a talk about stakeholder involvement, and Thomas Buijtenweg presented on how games might be used to link to those needs. When they came back to the workroom, participants started re-evaluating what they had just learned and started brainstorming. They were asked to develop a first vision, delineating objectives and possible strategies, and took advantage of a feedback session with the municipality representatives and the consortium team.

The second day was dedicated to the project development, punctuated by masterclasses and not structured reviews with the scientific personnel. The objective of this pedagogical structure was also to let participants connect their learnings with the specific challenge of the project, promotic an empirical approach.

On the last day, scientific personnel had regular review sessions with each groups, and when the concept got more detailed, they also assisted with more detailed information. The presentations started at six, and the jury consisted of Consortium partner and lector in gaming, Igor Mayer. Academy director for Built Environment and Logistics from BUas, Debbie Dermout and the founder and director of Y4PT, Alessandra Giorni. After the presentations, they chose the winners.

OUTCOMES

Each of the groups initiated and constructed a proposal of innovative, creative and integrated digital technology approaches that can be applied in order to foster and enhance the process of placemaking for and with residents.

Your Backyard project envisioned a platform to showcase real projects in Augmented reality. Projects can be seen during different design phases and a layer of information allows users to understand the purpose of each proposal. The workflow is based ont he following steps. The Municipality uploads a proposal design in AR as an engagement process with a set timeframe for feedback. The local community can access this proposal through the platform or in the physical environment through the AR function.

Through the platform, the participants of the game can give direct feedback to the municipality, come up with their own ideas or submit new designs for problems in the city that can then be assessed through the platform by the municipality and the participants. This concept does not only improve participation in design but also builds up data that is then analysed through AR: "What are the types of projects that are perceived as better? What do they have in common and is this different from an unpopular project?"

Space Frame envisioned an Augmented Reality app where people can visualise plans that are already in place or create and share their designs. Thinking about our future cities, it is necessary to imagine new technologies and adaptive environments. The goal of the project is to create a public "like & dislike" system to help the municipality make data-informed decisions. The potential goes beyond functionality; the platform can work as a game for the whole community to engage, learn and connect with their city by having a voice. Active citizens can participate in the city's life and create their visuals, and also play a real-life city-scale game. The program would include three different modes: virtual sandbox, community

sandbox and community planner. The virtual sandbox would work as a strategy to get people "hooked". They could use some basic features at home to familiarise with an app. The community sandbox would require people to go to specific locations in the city where they could interact with the environment. This mode is most likely to be used for entertaining purposes as it is game-structured. Lastly, the community planner mode would inform people about the requirements for future developments, and they could create designs for specific places and share them with others. Those designs can be voted for and possibly implemented in real life.

The application is beneficial for different stakeholders: the city can be shaped better for disabled people and families with children, local governments will get a database of possible design solutions, and businesses will get opportunities to facilitate the citizens' needs.
Users can create individual profiles, provide their personal information, build data-informed decisions that can be successfully used by municipalities in order to collaborate with other cities and improve the quality of public space.

The **Nexum** project was conceived to incentivise involvement from the community of Breda in the creation of public play spaces. The particular case study of the project was the jogging route that is planned to run alongside the canal of Breda.
Nexum is a canvas for creation. It is a spiders' web connecting the residents of Breda with each other, and the municipality. It accomplishes this feat through a constant loop of feedback provided in the form of geographical- and user data. Nexum comes in the form of a mobile app, containing routes and paths through Breda that users can explore. The app recommends the user with a route in Breda that fits their personal desires at that moment: an athletic route to exercise on, a scenic route to explore more of the city or perhaps a route that passes by all the stores that are currently running a sale.
The app also allows users to create and share their own routes, and their personal times on these routes. "Did you discover a new route that you

would like to share with others?" Share it and tag it with points of interest alongside the route. Or compete with other locals for the fastest times on the more athletic routes." On the backend, Nexum collects data from users to see which routes are popular and which ones are not. This data is then shared with the municipality to give them a better idea of what parts of the city tend to avoid, and why. The municipality can also influence the routes that are suggested to users. An event in the centre of town? Suggest routes that lead users to lesser crowded areas. Are Certain shops failing to attract customers? Alter a route to run alongside stores outside of the main shopping street.

Nexum also counts on AR technology; allowing users to have a visualised path in front of them while traversing the route. Alongside this feature, we suggest the creation of AR creation play spaces. These are blank canvases located in central, HUB, locations on which the community can create games with custom rules and AR projections.

Through the constant feedback loop and tools offered for creation, the community can feel more connected to the city of Breda, and to each other.

IMPACT AND CONCLUSIONS

The Creative Capacity Building in Breda was a big success. Many young, eager participants enthusiastically contributed to the project. Their diverse backgrounds (spatial planners, urban designers, mobility specialists, logisticians, and game developers) learned a lot about anticipatory games for placemaking. They got masterclasses from the consortium which was a great addition due to the synergy of ideas of our backgrounds. Very creative, out of the box ideas were developed that could contribute to the future of games for participatory placemaking. They were challenged to think beyond the obvious which prepares this young generation for their future careers. At the end of this intense three day workshop they were already asking for the next event. This showed their interest and commitment towards this topic that inspired many.
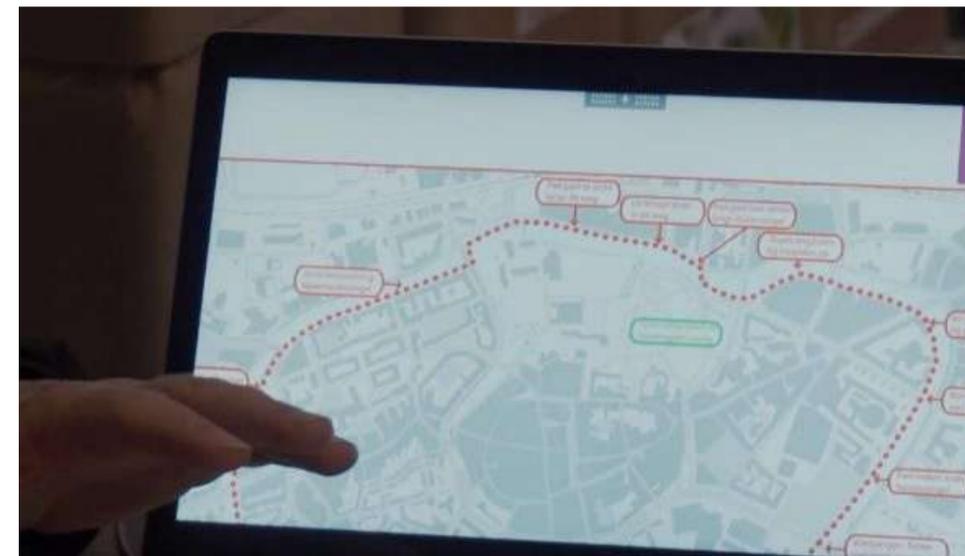
Palermo Creative & Capacity Building Workshop
Make your Game

The second Public Play Space Workshop titled "Make your Game" took place in Palermo from 16 to 18 July 2020. It was an opportunity to experiment with the organization of an event respecting the limitations due to the COVID emergency.

Seventeen participants were selected through an open call, each one with different experiences and backgrounds. They developed 5 game hypotheses, conceived as strategies to be implemented in the following Open Game Event of Palermo.

The workshop brief focused on placemaking and gamification, and was developed by CLAC in collaboration with IAAC and BUas. There are many different aspects of placemaking and mostly linked to the process of a placemaking action. There is an initial situation in which the need is to change the perspective about a particular place; the second step is to build an alliance between people and maybe administration also to understand which kind of intervention is needed by the space; then there is the physical modification of the place and finally, there is a phase of monitoring and of the continuous arrangement of the place. It is clear that **a game about placemaking could encourage one or more of the steps of a placemaking process.** Following this scheme, **the workshop focused its attention on building some hypothesis of games concerning one or more phases of the placemaking process.** To do this the workshop provided several lessons about placemaking, about game development, and about interactions between digital and physical reality.

For three days the participants had the opportunity to work side by side with urban planners, game designers and placemakers to develop new game concepts to be applied to placemaking activities. During the course they learned the basics of urban game development, discovering its various applications and developing new strategies for the shared design of public spaces in the city.

The scope was to implement gamification processes to facilitate public participation in co-design and decision-making about the building of public spaces.

The workshop was held in the "Cantieri Culturali alla Zisa" cultural district in Palermo of about 55.000 sq/m. The participants could use all the space with particular attention to one specific spot, the so-called "Spazio Incolto". The entire area of the workshop was discovered by participants through a small urban exploration game, and a brief memorandum of the story of the place was provided as well.

METHODOLOGY

Placemaking is an activity that directly involves citizens and inspires them to reimagine and reinvent the public spaces that constitute the basis of a community. Placemaking goes beyond the simple concept of urban design: by putting the physical, cultural and social identity of the city at the center, it facilitates the emergence of new patterns in the way of using the city in order to accompany and support its natural evolution. Through game mechanics it is possible to discover and understand the city from an unprecedented perspective and to know the different realities of which each city is composed. Games are not only playful moments, but they can become privileged tools in achieving specific project objectives. For this reason, games, especially Urban Games - those games that are based on the use of the physical spaces of the city as playgrounds - represent an amazing strategy to actively involve citizens in placemaking activities.

The workshop combined four Masterclasses aimed at providing theoretical preparation to a practical laboratory in which to immediately apply the knowledge learned by creating new games. The theoretical part aims to train participants on the bases of both game development by showing the fundamental ingredients and illustrating the development process, and of placemaking by presenting an overview of the state of the art. Together with the international experts of BUas and IAAC, CLAC and U'Game, organizations with a proven track record within the territory, took care of the theoretical part and also provided different game experiences. The Masterclasses continuously intersected with the practical workshop

where the participants divided into small groups applied the skills learned in the development and creation of different games.

The aim of the workshop was to devise new urban games that facilitate citizens' participation in placemaking activities. The projects carried out contributed to the development of innovative models for the shared design of urban spaces and to the identification of good practices through which actively involve citizens, in the implementation of innovative projects and in the regeneration of urban communities.

The workshop aimed at acquiring a basic training on game design, an emerging tool with high application potential: thanks to a playful approach, it is in fact possible to encourage public participation in the co-creation of a wide range of innovative projects. All citizens can submit their application: students and professors, social and cultural associations, urban planners and designers, public and private entities, businesses, and traders. Participants will have a unique opportunity to learn and experience a new method of involving the public capable of bringing significant benefits to anyone who wants to take a participatory approach to their activities.

DETAILED PROGRAM

After a general presentation of the workshop, each morning started with a masterclass about different themes on the "Public Play Space" project. The first presentation was about game theories and mechanics. The aim was to give the participants a general framework in which to start developing their first idea of the game. Therefore the "Fluxus" theory by Csicsemihalhay was explored as well as the framework provided by Caillois about the ingredients of games: Mimicry, Ilinx, Agon, and Alea. The second masterclass was about placemaking. This communication was given in consideration of the heterogeneity of participants. It was clear that it was needed to provide a common ground about the general purpose of the project. Another masterclass was focused on the interaction between the digital and the analog world. The scope was to provide a technological and, at the same time, an emotional framework in which to develop the games. The last masterclass was about practical examples of game structures and provided some samples about riddles and enigmatic games.

During the rest of the time, participants were asked to brainstorm and develop their projects, continuously supported by the scientific personnel. At the end of the third day, students were asked to present their projects to a jury member composed by the PPS team and invited guests from the Architectural design department of the University of Palermo.

OUTCOMES

Each of the groups developed a strong proposal, highlighting strategies for its implementation, as well as strengths and weaknesses.

The **"Rum and the mermaid"** project is a game about the city of Palermo in which the scope is to connect the physical and metaphorical archipelagos of the city. The game is based on an app that can receive different information from the teams. Each team is in charge of an island that is also a physical place in the city of Palermo. Each team challenges the other team, making their own games. The team that wins this particular challenge will have the ownership of a particular island that all teams have to conquer. This game wants to propose a reflection about the segregation of spaces in the city. While it is clear the scope of the game in the game presentation the game mechanics behind the game are not so well addressed, especially concerning the integration between digital and analog features.

The **"Cantieri Scoperti / discovered Cantieri"** project's goal is to involve the participants in the discovery of cultural sites and their activities. The aim is to make a little-known place more visible. This game contributes to placemaking in two ways: on the one hand, it promotes knowledge of the place, a preliminary step to the placemaking process, on the other hand, it provides internal actions for the temporary transformation of the space. The players of this game come from the high school of Palermo and the scope of the game is quite simple: Each team has to perform something about dance, poetry, acting, music and other performative arts that are represented by the organization that are in the Cantieri Cultural Neighborhood. Each one of the team has to choose a particular location to make their own representation, guided by the organizations of the Cantieri.
The game is interesting because it could be intended as a first step of a placemaking process. Firstly, it proposes a reflection on which are the cultural institutions inside the place. Then it drives the participants to choose a particular spot and to reinvent it as a set. In this way, it is possible to start to see the place in a different way that is the first step of a ground root-based transformation.

The **"Fabbrica Ducrot/Ducrot Factory"** is a building game in which participants are encouraged to build something physical inside the space. The game is divided into 3 different phases: During the first one, each team makes challenges and quests inside the space involved in the placemaking process. After this phase, each team collects virtual coins. In the second phase, each team chooses and buys with the virtual coins the projects and the material to furnish the space and build the objects. In the last phase, each team materially builds the space. The game is really good and has been selected as the best one. There are only some problems with the sustainability of the operation. Because to make it feasible, it is clear that we have to give to participants a huge amount of cardboard and it would be a pity to use it only as a demonstration of what could happen on the spot.
Moreover, this kind of game could be combined with other projects, such as SuperBarrio, developed by IAAC, or count on a maquette of the space where to arrange the in-scale furniture.

The **"Un teatro di enigmi / A theater of quests"** is an urban game conceived as an event, o be scheduled for a single day. The minimum number of participants is 10 people, gathered in a single team that will collaborate. The group of players enters the role of a theatrical company, which due to an unforeseen event, finds itself without a theater in which to act, consequently it must build it because it cannot postpone the event. First type of test: the path of enigmas through which to discover the materials for setting up the open-air theater. Second type: Set up the open-air theater through management by selected scenographers within the cultural sites, selecting the discovered material deemed necessary for the purpose. Third type: Staging the comic sketch involving the whole group of participants.
Wooden cubes, walkways, umbrellas, plants, decorated panels, wooden platforms, or bulky materials can be camouflaged among the useful materials. Each of the material blocks is covered with a tarp. The game is really good to start a modification of a place and it could be good to use materials and furniture that could be used in a medium term perspective.

In the meantime the transformation proposed is really connected with the particular function of acting something.

The **"U Cuntu dei Cantieri'/the tale about the Cantieri"** is an urban game developed around the story of the site. In this game there are 4 different thematic routes proposed to the players. At the end of each route the team has materials and instruction to build an object connected to the theme route. The winning team is the one that builds more objects during the game. It is clear that the game highlights game mechanics, creating an educational experience, but the real connection with a possible placemaking process is only the changing of the point of view about a place.

IMPACT AND CONCLUSIONS

European projects have to inspire people. One of the most remarkable successes of the PPS project, from our point of view, is that one of the participants to the Palermo Workshop decided to change the direction of his life and is now a student of Breda University. On another hand the debate, also activated by the workshop, about a particular space in the area of the Cantieri Culturali alla Zisa started a process of reuse of the space. In fact the so-called "spazio Incolto" is now an outdoor area that can host different exhibitions. This process started with the PPS Workshop, and continued with a virtual exhibition in AR developed through the technology awarded in the PPS project by Georgios Artopoulos.

All the contents of the workshop were inspired to stress the theoretical framework developed in the project. Particularly the framework of classifications used in the wiki, the connections between the digital and physical world, and taxonomy of the phases of placemaking actions. These were the starting points of each workshop. From another point of view, it is possible to overlay the results of the workshop even with the taxonomy of the Wiki and with the phases of the placemaking process.

Clearly, because of the COVID situation, we were not able to experiment for real with the games in a real situation. Nevertheless, these games left the workshop with the theoretical framework of the project. The "Rum and the Mermaid" game proposal can be intended as a game to change the common vision about places. Taking into consideration the wiki and state of the art taxonomy, it is a game that wants to work at the city scale, has an undefined audience, is designed for a small group of people, defines an imaginative aesthetic, uses data and Ai technologies. Mechanics of simulation has the purpose of raising awareness, supports a co-analysis process and its main outcome is to increase awareness and partnership.

"Discovered Cantieri" proposed a quite different framework. Considering the placemaking process, the game wants to change the point of view about a particular space, while considering the wiki categories. It works at a neighborhood scale, it is imagined to act with a community, it is made for small groups of citizens, uses mainly the realism as aesthetic fundamental, uses analog and tangible technologies, location-based mechanics, has the purpose of increasing collaboration, and supports a co-design process.

The "Ducrot Factory" game is an example of a game that acts during a placemaking action to help people materialise and build a new environment. It can be considered in the very middle of a placemaking process. Considering the wiki taxonomy, this game is projected to work at the neighborhood scale, to involve local communities, work with small groups of people, develop an aesthetic connected to a physical activity of construction, use analog and tangible technologies, use location-based mechanics with the purpose of collaboration for the co-creation of the space. In the end, this game produces the outcome of increasing people's awareness about a specific place.

A "Theater of Quests" is a role playing game that can act as the starting point of a placemaking process to help people in activating a path of modification. Concerning the wiki framework this game can be defined with a neighborhood scale, a community audience, the game acts in small

groups of people, activates aesthetic of imagination, works with tangible and physical tools, and with mechanics of simulation. The purpose of the game is about activation of a placemaking action. It proposes people to co-design the space, and its outcomes are about partnership and awareness.

"The tale about the Cantieri" is a narrative game about the history of the site in which the workshop was developed. It could be intended as a game to increase awareness about a place so in the scheme of the process of a placemaking action can be intended as the second step of the process, in which people change their point of view about the meaning of the place. Taking in account the wiki taxonomy that describes the games, it is possible to argue that this game works at a neighborhood scale with local communities, involving small groups. Considering the point of view of the play, this game activates aesthetics of construction and of realism, works with analog and tangible technologies, and uses location based mechanics. While from the point of view of the game, this one has the purpose of educating participants, has not so much co-creation and the main outcome is about awareness.

It is clear that because of the particular situation in which the games were developed, they are very homogeneous. This homogeneity means logically that the taxonomy proposed is well addressed because it can describe the different games properly and in this particular case can describe the situation in which they were developed. The workshop, infact, really focused on developing a game for a particular spot of the Cantieri and to use analog technologies to build something physical too.

Barcelona Creative & Capacity Building Workshop
Co-design for Co-Habitation

The third and last Creative and Capacity Building Workshop, titled 'Co-design for Co-Habitation', organized by IAAC, was held in Barcelona during the days 28, 29, and 30 of September 2020.

During these three days, 19 participants joined both in-person and remotely and worked together in 6 groups with the objective of developing strategies and projects that activate the public space by using advanced interactive technologies and playful interaction and gamification techniques. The Workshop combined intense work sessions with in-depth expert feedback and guidance meetings. These were also paired with insightful and inspirational lectures given by the PPS project partners experts in the fields of architecture, arts, gaming, participatory design, and advanced technologies (from IAAC, BUAS, and CLAC), that explored Interactive Technologies for Co-Habitation, Theory of Games, Digital versus Analogue Games, and Emotional Landscape theories and practices.
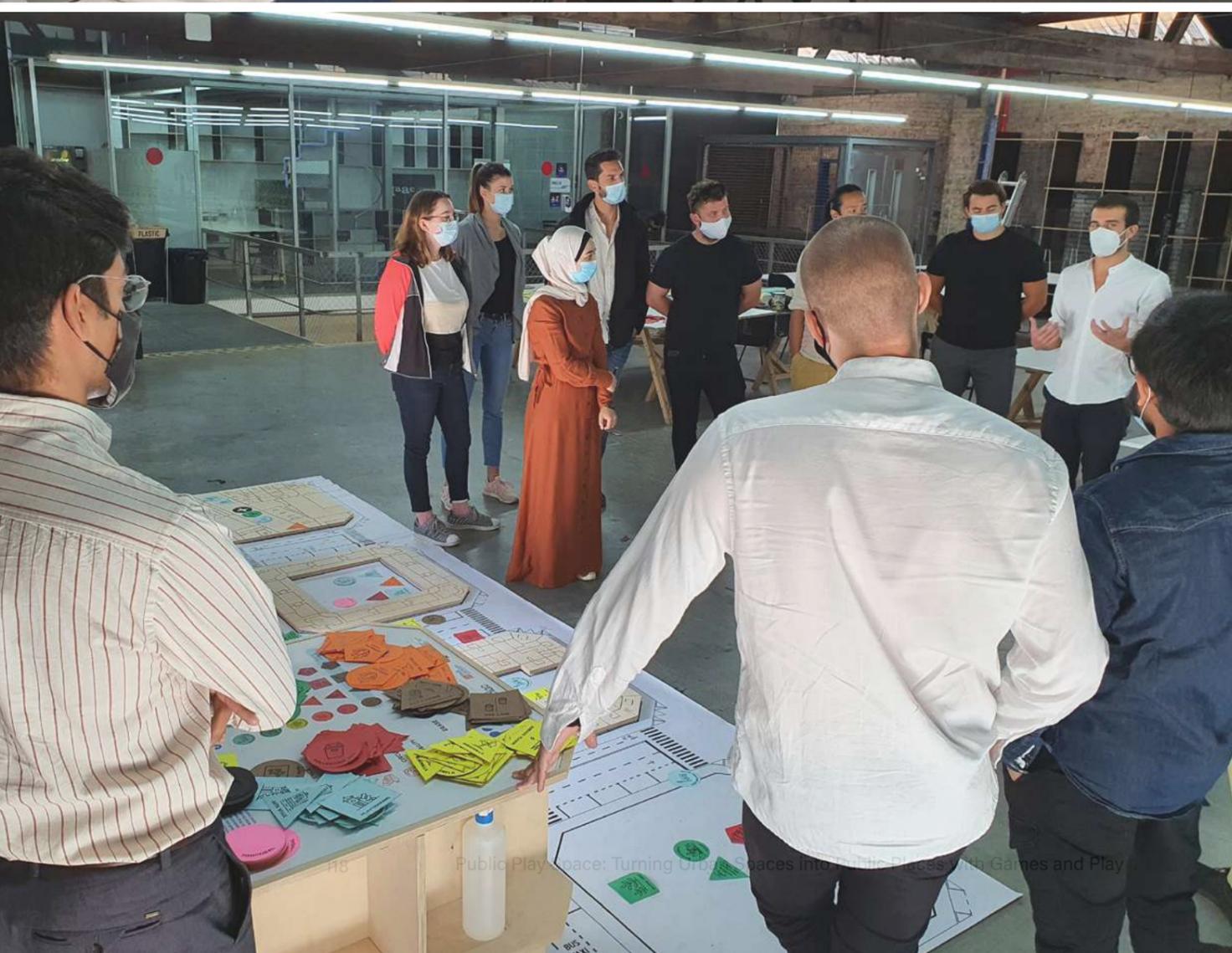
In the "Co-Design for Co-Habitation Workshop" participants worked with experts in the field of architecture, art, gaming, participatory design and advanced technologies towards the development of innovative strategies fostering a collective reflection on co-habitation in cities, and focusing on enhancing sustainable consumption habits, as well as self-sufficiency and circularity. Workshop participants were challenged to develop disruptive tools (based on urban games, immersive installations, interactive urban elements, etc.) to foster the co-creation and co-design of public space for current and future urban challenges.

The Workshop was aimed at strengthening the sense of appropriation of these spaces (placemaking) while making the neighborhood's social relations of proximity more inclusive and organic.

The workshop was held during the second wave of COVID-19 and was deeply informed by the radical changing scenario. The pandemic and environmental crises, today, are forcing us to rethink the city models, including reducing the circulation of private vehicles allowing reappropriation of part of the streets into public space. At the same time, the pandemic crisis has demonstrated a growing necessity to invest in urban models that are circular and self-sufficient, as well as inclusive and collectively created. Therefore, within these current and challenging moments that society and urbanity are going through, we need to further a reflection on resilient co-habitation in our cities and on a diversity of uses for public space.

The workshop investigated which are the new models of inhabitation, production and consumption that can ensure well-being to all?

On how we can increase public space and diversify its use and how we can engage citizens in a collective reflection on current consumption models, driving society towards behavioral change. Furthermore, the workshop asked how we can set up innovative participatory processes in urban design and planning, taking into consideration current constraints of social distancing for public health.

METHODOLOGICAL NOTES
The **first objective** of the Workshop was to train participants on the use of novel methodologies for the co-design of the public space, based on the use of advanced digital technologies combined with gaming and playful interaction. This multidisciplinary approach represents an innovative field of research, previously explored by the PPS partners with the definition of the State of the Art - Catalogue of Best practices. Through lectures and Q+A sessions, students had the possibility to comprehend the current

state of the art and gather a deep knowledge of the challenges and potentials of similar processes.

The **second objective** of the Workshop was to challenge participants to develop projects that were making use of the previously mentioned methodologies, in order to inform and contribute to the creation of the future Open Game Event process, which were implemented in Barcelona in the next phases of the projects.

This method joins education and co-design, on one hand improving a learning-by-doing methodology capable of increasing the capacity building processes and, on the other hand, fostering a co-creation model where different expertise and professionalism can contribute to the Open Game Event concept development.

In order to stimulate co-action with local activities and ensure a wider connection of the PPS project with the citizens of Barcelona, IAAC proposed to develop the Workshop in synergy with the annual Festival of Light of Barcelona ("LLUM BCN"). The Festival, organized by the City Council of Barcelona, takes place in the district of Poblenou in Barcelona. During the festival, different professionals and institutions, including IAAC, are invited to develop a light installation for the activation of a public space in the city of Barcelona, engaging citizens in the interaction in the space.
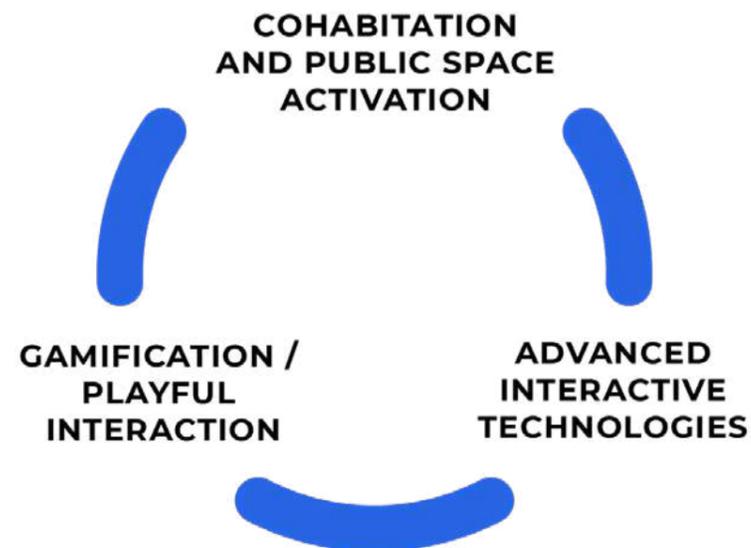
Similar challenge represents a perfect framework for the actions of PPS in Barcelona, combining the temporality of the Open Game Event with the focus on the public space and citizens' engagement with interactive technologies.

Brief
Based on the previous mentioned strategy, the brief of the Workshop challenged students to develop a **temporary installation** that could make use of digital interactive technologies and gaming/playful interaction in order to:

- generate interaction between users and space;
- generate interaction between the users;
- engage citizens in a reflection on the public space and how citizvens can co-design and activate it, sharing desires and/or proposals about functions, time of use, patterns of cohabitation, etc.

Students were asked to use one of the following **Advanced Interactive Technologies:**

- Video Projection,
- LEC / Light, Laser,
- Mixed Reality,
- Leap Motion,
- Body tracking,
- Computer Vision,
- Tangible Interface.

These technologies were chosen as they offer a big number of users the possibility to interact.

In order to facilitate the ideation process thanks to the confrontation with a real case scenario, **a different location was assigned to each group, out of 6 selected squares or streets in the city of Barcelona.**

The observation of the space, the confrontation with neighbors and local stakeholders (thanks to interview and site visits) was recommended, together with desk research based on existing data.

The ideation, conceptualization and development process was fostered during the three days with a dynamic time management, which counted on **morning and afternoon individual review sessions** where each group presented the project advancement to all the scientific personnel (present in class or connected via video-conference), combined with the **continuous support given in class by the experts,** fundamental to ensure the development of competence.

OUTCOMES

The six groups presented outstanding proposals: The Urban Pyramid, Lucus Lux, The Loop, Pujades Soundscape, the Urban Sweeper, and Designing by Moving.Each one of the groups pitched in front of the jury and addressed the following topics: location of their project idea; the target group; which playful interaction strategies or game mechanics they used; the concept and main objective of their game; the technology; budget; replicability; and a render to exemplify their idea.

Inspired by the 1960's computer game of [minesweeper](#), the **Urban Sweeper** is an interactive game designed as a tool for planners and citizens to engage in the co-design of their public spaces. By bringing the logic of minesweeper to the urban scale, the game gives the tools to citizens to learn about the objects that make up their urban environment and the relationships these objects have with one another. On the other hand, it allows planners to collect data on citizen's wants, desires and patterns. Urban sweeper is a flexible and fun platform that opens an engaging learning experience using advanced interactive technologies and game strategies, counting on the nostalgic effect of such a well-known game.

Just like minesweeper, the aim of the game is to clear a rectangular board containing hidden 'mines' (in this case - a defined set of 'objects').

Firstly, the street is pixelated into (60cmx 60 cm) cells. Upon landing on the first cell, the game is activated and a set of a randomly generated pattern appears. The cells have three states- covered, uncovered, and blocked. A covered cell contains the name of the element and can be uncovered by standing on it. An uncovered cell contains the exposed element in real scale via a projection on the floor. A blocked cell cannot be selected. As the player selects elements, clues appear along the path and more and more choices are revealed. The player then has to make decisions on the next move and deduce the best desired scenario for the street layout. The game also allows multiple players to collaborate to complete the set. The Urban Sweeper works through a series of projectors that are placed on one or two points on the facade of the neighbouring buildings. Sensors detect the movement of the player on the grid while another projector displays messages on the facade that allows for with game instructions. Since the game consists of a pixelated grid system, it has the potential to grow and expand to occupy different typologies of spaces.

The Urban sweeper allows the player to see the impact of his/ her decisions in real time and in a playful and engaging manner. The players begin to understand the scale of the objects they place in relation to the grid and in relation with each other and are triggered to ask themselves critical questions such as: "Can I place a bike sharing station next to the

▲

Urban Sweepers project by Iñigo Esteban,
Hebah Qatanany, Sridhar Subramani
(Barcelona, 2021)

playground ? Or do I create a walkway?". It also allows the planners to ask questions on the habits of the players: "How many people passed by without stopping? How many chose a fountain over a ping pong table? What are the most selected objects?". And so on.

A mix between play and reflection, the Urban Sweeper encourages citizens to be critical with their choices in the public space and to express their desires. The game is adaptable and can be programmed to suit different scenarios from small neighbourhood streets all the way to large plazas.

The walk-in installation '**Lucus Lux - sacred grove of light**' attracts visitors by creating a multisensory experience. The illuminated forest invites people to be creative and form their own blooming play space onto its blank canvas. By placing this installation into the urban fabric, we want to bring awareness to the need for the re-naturalization of our urban environments through a playful interaction. The experience is meant to be multisensory by combining today's technology with nature, education, play and reward. The installation combines light, animated projection, sound, and haptically elements.

Through the playful drawing of different projected natural elements into this virtual environment, the project fosters awareness in the visitors about the local flora and fauna species and generates knowledge on the importance of creating a balanced environment. In fact, the game mechanics are based on the challenge to achieve balance in the space. Once this challenge is reached, you will be rewarded by the dispense of real seeds falling onto the play-canvas. These seeds are meant to be spread by the participants throughout the city and allow people to have an active role in the re-naturalization. The seeds shall include flowers like aster and calendula to attract butterflies back to our balconies, lavender and abelia to help our bees, sunflowers to grow within our streets and feed various kinds of birds and many more.

The **Pujades Soundscape** addresses acoustic-urban relationships through games of listening and acoustic control on the street-front of the IAAC Atelier campus. An Internet of Things kit of sensors and modules are integrated into digitally fabricated acoustic domes, deployed as urban nodes for auditory games involving neighbourhood and city-wide stakeholders in both passive and active manipulation of street sounds.

A catalogue of naturalistic sounds emit from the acoustic domes, are aimed to invite unexpected acoustic delight for individuals or groups of pedestrians/players. Touchless controls of the dome's sonic environment provide a pandemic-friendly solution for collective gaming. The LED light system of the domes synchronizes with the individual and collective sounds of the acoustic domes, creating a spectrum of colours that resonate

Lucus Lux project by Elena Petruzzi,
Hendrik Benz, Michelle Bezik.
PPS Barcelona Workshop

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Public Play Space: Turning Urban Spaces into Public Places with Games and Play

sounds of the acoustic domes, creating a spectrum of colours that resonate with the street's soundscape through day and night.

The **Loop** project is an interactive space that adapts to the needs of users of a specific public place in real time and contributes to their activities according to their behaviour.
This behaviour can range from active to passive. By being engaged in all kinds of different activities, (providing input) the users are able to provoke a reaction (receive an output) of the system and design a custom space around them. The installation targets every age group.
The purpose of the project is to test the public place layout that already exists by gathering data about what kind of activities the users prefer to engage themselves in, the duration of these activities and what hours of the day coincide with what kind of activities.

The **designing by moving** engages citizens to think differently about their usage of the public space. Citizens are called to co-design public space based on a predefined role and on a specific topic. The players will walk/jump to icons projected on the floor.

The **Urban pyramid** uses physical energy to power an holographic pyramid. It is a multiplayer gaming platform which has multiple handlers connected and users are interacting with the platform which is displayed as a hologram over the pyramid. This has a capability of running different games/environments in future and has vast scalability potential. With respect to the user inputs in the game of city development, aiming at displaying the results weekly, and showing how citizens are imaging the city to develop.
The project Targets different groups including people from all incomes, education, and irrespective of their nationality, age, sex, ability. The project aimed at being tested in the Superblock of Barcelona. A series of tactical urbanism operations has pedestrianized a "superblock"—nine blocks in the grid-designed Example district—in a pilot test of a future large-scale strategy for reclaiming public space from private vehicles and making it available for public transport, bicycles and pedestrians. The circulation pattern through the streets of Barcelona would take the player on a trip in the superblock and will have certain nodes where the player stops and add items from the list provided to make that stretch of road as a more citizen responsive urban space. Each Avatar will have a certain list of items to choose from, which he wants to add on a certain node to create the space as per his opinion. The list will be created on the behavioral pattern, choices from research as per their category.

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Pujades Soundscape project by
Ziying Zeng, Bartek Najman, Kevin Lin
PPS Barcelona Workshop
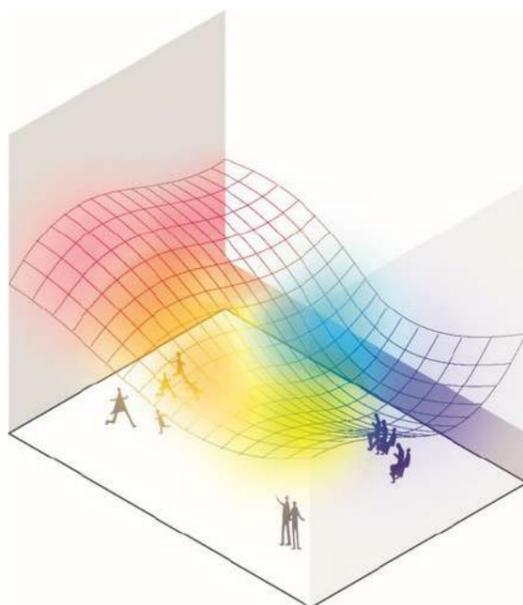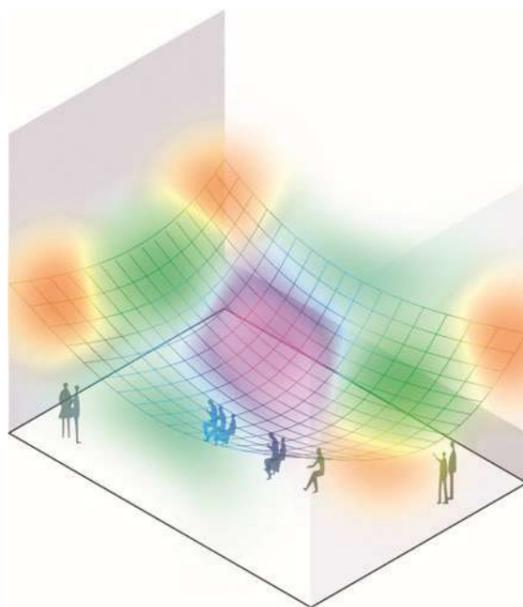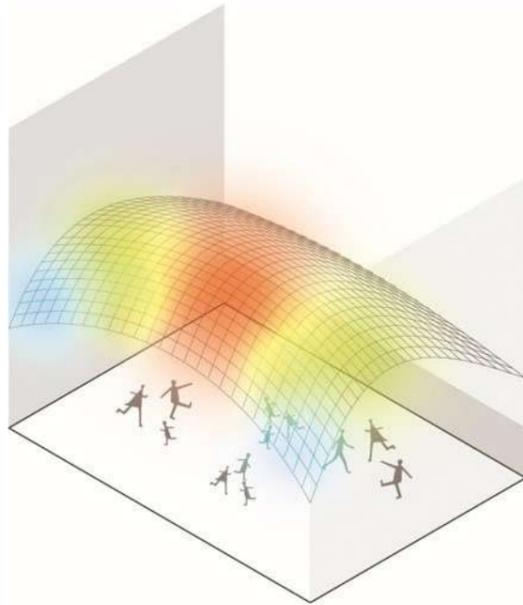
IMPACT AND CONCLUSIONS

The activity was a real success under several points of view. The learning-by-doing methodology set aside by the consortium was able to foster capacity building despite the limited time available, letting participants experience and put into practice learnings in an immediate way. Moreover, each one of the participants found in the workshop a learning space to express their ideas, based on their diverse background, and let them flourish through the support of the scientific personnel. Finally, the workshops are extremely interesting solutions that contribute significantly to the current state of the art proposing refined strategies to take advantage of games and technologies for the co-design of public space.

The workshop stresses the value of similar pedagogical and creative approaches, contributing to the state of the art with good educational strategies and with innovative content.

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"The Loop" project by
Alexander Dommershausen and
Elizaveta Veretilnaya
PPS Barcelona Workshop
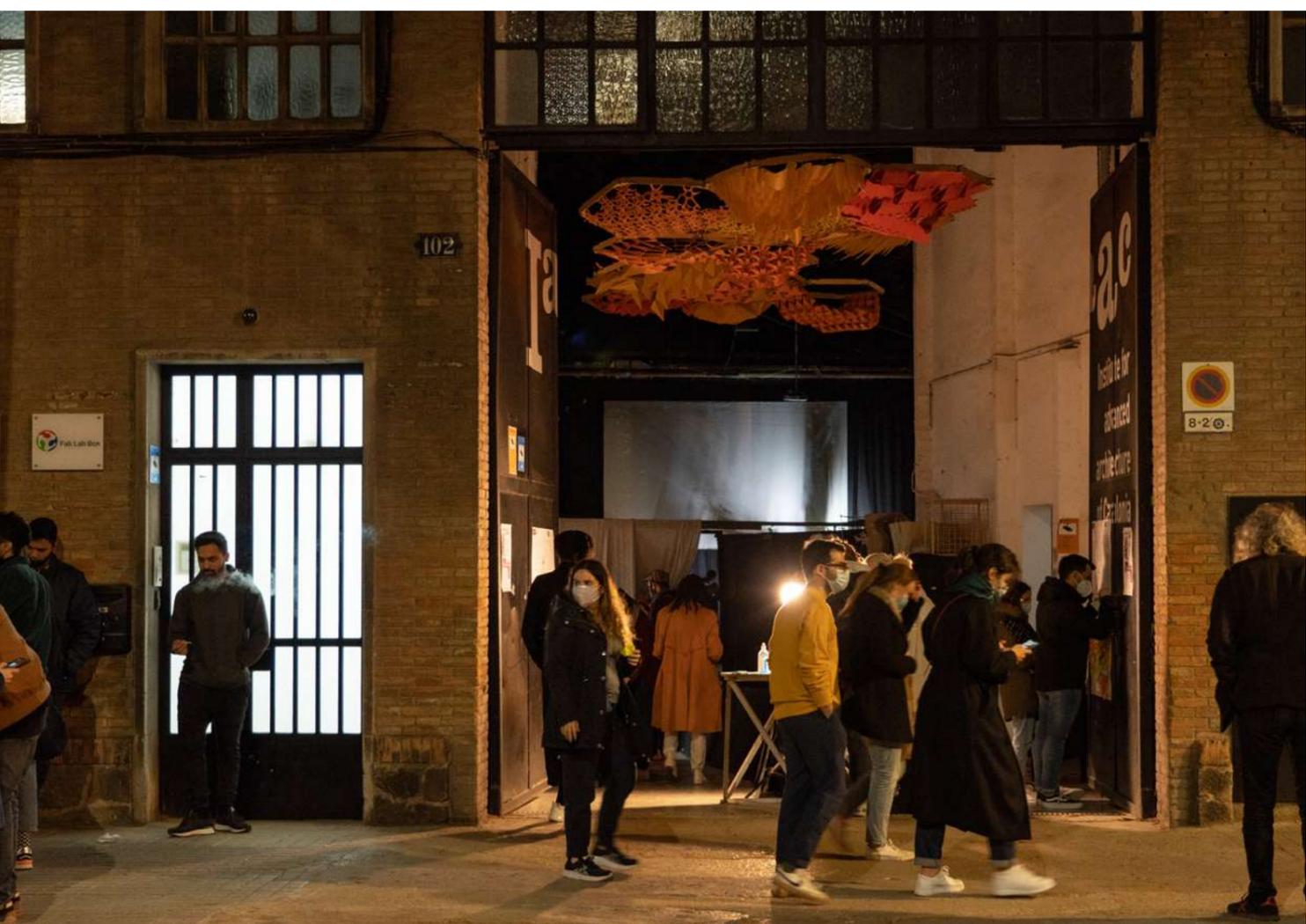
OPEN GAME EVENTS

OPEN GAME EVENTS IN PALERMO, BARCELONA AND BREDA

The Open Game Events were aimed at engaging stakeholders (Neighbourhood associations, policy makers), architecture and design students, and citizens. This included people that attend participation meetings as well as people that are not common participants in these kinds of activities, such as children, and migrants driving their attention on the importance of participation in cities design and on the potentials of digital technologies in this context. In this way the interest in game and advanced technologies for placemaking raised amongst new audiences, as well as engaging such audiences in the process of co-design and placemaking of the public space they inhabit.

Each event took place in one day. Stakeholders and ordinary citizens were engaged in a public play space activity in the target city. This activity allowed cultural operators and public institutions representatives to experiment the use of novel methods of co-design and placemaking with a wide public as well as to collect data about the citizens' needs and desires. It also engaged citizens in co-creation processes strengthening their confidence with participatory processes, education also on inclusiveness (learning about other citizens' needs and desires) and on sustainability (co-designing more efficient and resilient public spaces).

In order to engage all actors of the process and make them feel all equally included in the various parts of the process, the following strategy of public engagement was implemented. Local relevant citizenship initiatives were invited to take part to the activity aiming to explore the needs and wishes of the communities and their potential, citizens not usually taking part to participation initiatives will be engaged through social media campaigns; local stakeholders were contacted in order to boost the outreach amongst local audiences; an online space for public debate was set in order to provide feedback; web-based questionnaires and public polls were created to track audience feedback.

Open Game Event in Palermo
Generation Earth

The first PPS Open Game Event was carried out by CLAC in Palermo on the 26th of October 2020. Generation Earth was conceived as a game experience on the very first phase of a placemaking action. In this phase, the objective was to recognize and get familiar with a specific place and environment in order to start the process of taking care of it.

The game was based on the New Anthropocene framework and it considers garbage and litter as traces of an investigation. As traces of our era. A leaf, a cigarette butt, a flyer, a can…These are waste that we usually find on the streets; but if we change our lenses, these objects can become precious clues, ready to tell us a story. The location chosen for the game was the "Cantieri Culturali alla Zisa" of Palermo and its neighborhood, the same one where the Creative and Capacity Building Workshop of CLAC was held in July 2020.

The Open Game Event was organized by CLAC with the support of PPS partners (IAAC and BUAS). Due to COVID-19 crisis, project partners could not travel to participate in person during the game execution, but they contributed to the development of the game materials via online meetings and online shared documents.

Besides, CLAC had the pleasure to receive support from following local organizations including the environmental association Legambiente and the volunteering networks CESVOP and Casa di tutte le genti. Each one of the organizations was in charge of the different aspects of the game: CLAC designed and organized the game; Legambiente developed the environmental contents, CESVOP activated the local network together with Casa di Tutte le Genti that invited the young people that participated in the game. To deploy this organization, each one of them brought tutors in the game. Moreover, some other volunteers were former participants of the PPS Design Workshop organized by CLAC in July 2020. Because of the COVID situation, Associazione Nazionale San Marco participated with 4 volunteers guaranteeing the respect of social distance and related issues to ensure the security of all participants. The players of the game were 35 teenagers that interacted with tutors and volunteers that participated actively in the game.

METHODOLOGY

The very first step in a placemaking process is to enhance the capability of citizens to analyse and interpret the state and conditions of the public space. It is therefore necessary to increase the consciousness about which are the topics of a place.

The workshop was built as a thematic trip, connecting two important public spaces, near in space, but also really different. The format of the game was simple but effective, focusing on collecting objects in the streets and transforming them into the elements of a story. These "objets trouvés", which would be conventionally conceived as garbage, become a representation of the human activities behind them. Several authors, like Don De Lillo in his masterpiece "Underworld" (Robson, 2010), have proven the power of waste to represent life and social relations that uphold it. Waste becomes a medium, and a mirror.

This process is really connected with a placemaking action because it tends to give a new sense to the environment and the city landscape of a place, imposing a reflection about what can be found in that space. The game is closed by the elaboration of stories about the objects.

The game was played by a group of more than 35 teenagers and volunteers and was carried out in three phases:

- The first phase was the research and exploration of public space. Players had to find and pick, on a predefined trip, between 4 and 8 objects.
- During the second phase, a group of experts from the environmental association *Legambiente* explained to participants the materials they selected.
- In the third phase, players had to invent a small story about the things they collected.

Through the Generation Earth game experience, participants were able to identify the state of a place while highlighting that the things people found out there had a backstory to tell. Before this, objects would have been considered as simply useless garbage, while afterwards players were able to identify their previous function and the service they provided.

The game started in the garden of the Zisa Castle, in front of the association "La Casa di tutte le Genti". Participants were divided into small groups of 4 or 5 and started their trip guided by a volunteer with the objective of collecting 6 traces or elements from the ground.
The game started in the garden of the Zisa Castle, in front of the association "La Casa di tutte le Genti". Participants were divided into small groups of 4 or 5 and started their trip guided by a volunteer with the objective of collecting 6 traces or elements from the ground.
In the second phase, participants presented the objects they found, and experts described the characteristics of the materials.

During the game, 5 stories were developed on approximately 36 objects found during the tour. Objects like bottles, cans, corks, plastic snakes, or medicine blisters, became part of different tales and each one of the stories talked about the place and the uses of such objects within that spot. The game ended up with a brief presentation by each of the 5 groups.

OUTCOMES

The 5 stories developed by the participants offer a novel and interesting approach towards the public space, and the capability to analyse it and transform it into a "place" for living.

STORY 1
A piece of paper, a wood-stick, a cork, and a candy card
"Once upon a time there was a young boy.
The boy lived on a branch of a tree and one morning he was eating a golden candy, when suddenly the branch broke. The boy fell to the ground, hit his head and no longer remembered what he was doing but found a branch of the tree and the candy paper.
At one point he saw a cork moving and began to follow it. Looking closer he realized that the cap was tied to a plastic thread and was pulled by a

beautiful girl. Then he remembered everything, he was on the branch of a tree because of a spell that was broken by the intervention of a girl who gave him a golden candy. Now all that remained was to pick up all the pieces of the story from the ground and tell another."

STORY 2
A ticket for the Zisa castle, a hair pin and a used coffee cap
"Once upon a time there was a young lady. Her name was Vanessa.
On A sunny Sunday Vanessa took a walk with her dad to Zisa's garden.
They went to buy tickets to enter the Castle, which was still closed because it was too early.
While they waited, they entered a bar to have breakfast. His dad liked the coffee very much and asked for a sample so he could buy it back.
Once back at the castle, Vanessa tied her hair from being too hot. Before going home he started playing with the dogs that were in the park. While they were playing, both the coffee bag and the castle ticket fell out of her father's pockets. After a few steps Vanessa untied her hair and she too lost the hairpin she had used to tie it."

STORY 3
A pack of cigarettes, a plastic cup, a dry leaf, a pack of chewing gum, a package of a medicine for stomach, USB adaptor, a flower, the paper of a candy
"Once upon a time there was a boy named Federico who drank and smoked. One day he accidentally ate a leaf. Waking up the next day he found that his breath stank. So, he decided to go and buy some chewing gum. While on the road he remembered that he had dropped some wine on the USB power adapter before falling asleep. He had a lot of pain because of his bad habits and so he took medicine for the pain. Along the way he met a beautiful girl and gave her a flower and together they ate candy."

STORY 4

A bottle of medicine, Cigarette paper, Wine carton, a mysterious metal tool, a plastic piece of a toy

"One afternoon, we were together, and we decided to collect some objects, as evidence of what was on the ground. We found 5 objects.
Among these the most incredible was a metal object, made up of many plates. It was so tiring that even Google couldn't tell us what it was."

STORY 5

A rubber snake, a clothespin, a bottle cap, a paper handkerchief, a piece of wood, a flower, a pinecone, a stone

"Once upon a time there was a girl who was under a tree. A flower fell on his head, but alas also a pinecone. Looking around he saw a boy drinking from a can. Fortunately, the boy had a plastic cup with him and offered the girl a drink. After drinking, the girl walked home and tripped over a stone, peeling her knee. Then he dried himself with a handkerchief. Once back home, she washed the dirty clothes and hung them with a clothespin. Meanwhile, the brother was playing with a plastic snake and a metal cap. Fortunately, the knee healed quickly, and the girl was able to go out with the mysterious boy who had offered her a drink."

IMPACT AND CONCLUSIONS

The main result of this game is the change in the participants' minds regarding the place. It is the ability to argue that some of the discoveries made during the walk are not normal in a city framework. People get used to its context and are not capable of seeing what is surrounding them. Furthermore, the game developed 5 stories in which the 36 strange objects found during the journey were the main protagonists.

It is clear that such a format cannot be used in all places and contexts, but placemaking is a very local approach to building public space. In the meantime, the game Generation Earth is a kind of preparatory step to

engage citizens to take real action in the transformation and co-design of public space. It does not involve the choice of people, as it only collects and connects objects belonging to a place. But by giving a new meaning to these objects, participants give another meaning to the place they inhabit. Many strange objects were found during the exploration such as coffee capsules, wine bricks, USB cables, cigarette packs, medicine blisters, and many more. If the same game was conducted in the PPS partner cities of Breda and Barcelona, the results could have been very different and may even have had to be structured differently to incorporate local particularities.

Comparing the Palermo Open Game event with the theoretical framework developed in the PPS project, it is clear that this kind of game is designed to activate the reflection about a place. So it can help the very beginning of a placemaking process. It is particularly interesting because it forces the participants to change their point of view and can also define peculiar interesting spots through the proposed path. Remembering the dimension of spaces as argued by Lefebvre, 1991 and Harvey, 2007, the game plays with the absolute space because the objects are found in it, in a physical world but through the game mechanics, the meaning of the objects are put into another dimension: a space that is relative to the players/storytellers that decided to put in another context of meaning the objects founìd during the trip. Furthermore, it is clear that this kind of effort is relational because the stories developed by players come out from a confrontation and are put inside an imaginary place of meanings and relations.

Open Game Event in Barcelona
Lumina Foresta

Lumina Foresta, the second PPS Open Game Event, was carried out by the Institute for Advanced Architecture of Catalonia (IAAC) in Barcelona on the 12th of March 2021.

Lumina Foresta is a deployable interactive installation that engages citizens in public spaces in a process of discovery, learning and co-design, focused on the topics of sustainability and renaturalisation of the urban environment.

First, it raises awareness on the positive impact of trees in compensating human CO2 emissions and, afterwards, it involves citizens in a collective co-design experience, equipping them with plant seeds as tools for urban placemaking.

The importance of renaturalisation and ecological restoration in cities is today widely acknowledged by policy makers and the scientific community, particularly the presence of **trees in urban environments.** Trees can transform CO2 particles into Oxygen (O2), and 500 trees are needed to compensate for one human being's CO2 yearly emissions. Trees are nurturing the environment and can help to mitigate the impact of human activities, but many more trees are still needed to be planted to compensate for the emissions of every human being. However, this relevance is not yet diffused in the wider audience of civil society, thus the need for systemic **knowledge development** and **educative engaging processes** through capacity building actions.

The end goal of the Lumina Foresta Open Game Event (OGE) is therefore to engage local stakeholders (including neighbourhood associations, policy makers), architecture design students, and citizens in order to raise awareness on the importance of **sustainability and renaturalisation**, by stimulating a process of **participation in public space co-design** and demonstrating the **potentials of games in placemaking.**

Lumina Foresta was designed based on the preliminary findings and experience gathered during the Co-Creation and Capacity Building Workshop held in Barcelona in September 2020.

The Open Game Event is conceived based on a deployable artistic-technological installation that can be localized in different public spaces. It is in fact a flexible and movable system that can be replicated in different contexts.

The event was planned to be held in the public space area called 'Passatge Trullás', a community garden space run by a local association of neighbours. However, due to COVID-19, at that time cultural activities in the public space were banned by the local Government of Barcelona. The interactive game event had to be undertaken in a different location, and was therefore located in the IAAC Headquarters, specifically in the Main Hall, 400 sqm at the ground floor and facing the street. For the same reason, the game experience was organized in small groups of 5 participants each in order to ensure physical distance and respect all legal requirements. These changes did not generate problems in the management of the event: the space well suited the needs of the event, acting as a protected and controlled public space, and allowed to successfully prove the flexibility and adaptability of the Open Game Event, conceived since the beginning as a scalable and replicable activity.

In fact, despite the current challenges posed by the COVID-19 pandemic, it was a big success as we counted on the participation of more than 50 participants that belonged to different types of audiences,

The artistic-technological installation succeeded in engaging citizens who were simply passing by in the street, attracting them to enter the IAAC Main Hall and ask to participate, the *audience-by-surprise*, such as citizens who are not usually keen on joining the participatory process.
Moreover, the event counted on the participation of citizens who are keen on participating (*audience by choice:* Neighbourhood associations, architecture, designers and gaming students) or who are experts in the sector (*audience by habit:* city authorities, policy makers, architects, public space designers).

Organisations and external experts
With the objective of providing more visibility to PPS project and strengthen the network of local stakeholders, the OGE took place within a double event organized by IAAC, in which both Lumina Foresta and Co-mida projects were presented (Co-mida is an intelligent vertical modular system for the cultivation of edible plants that is co-designed with local neighbours in the district of Poblenou, Barcelona, co-funded by the municipality of Barcelona and led by IAAC). During the first part of the event, Co-mida project undertook a series of roundtables where experts in the field of public space co-design, local participation, local food production and sovereignty, and cities biodiversity, debated on the present and future needs of citizens and urban ecosystems. The second part of the double event was dedicated to the OGE Lumina Foresta. The organizations involved were the Barcelona City Council, the civic activism platform *Asociación Taula Eix Pere IV*, the environmental and food associations Sun Sun Love and ConnectHort. Then, a series of local Stakeholders and experts were invited to experiment and give feedback on the interactive installation, as well as to boost the outreach amongst local audiences. Experts from the fields of architecture, civic activism, agroforestry, resilience and ecology were invited.
Web-based questionnaires were created to track audience feedback,

Interaction:

Once built, Lumina Foresta was ready to receive new technologies to foster the interaction with users. Those technologies included a night vision camera to track the movement of the visitors, computers, Wi-Fi network and video projector. Data of the users was analyzed by a Python script that extracted the location and number of people interacting with the installation. This information was transferred live to Touch Design, an interactive video mapping software, that converted the user's body into an array of CO2 particles. The CO2 data was video projected using a high-definition projector into the multi-layered surface of the installation. The final outcome is a hologram effect that shows the CO2 particles that humans produce in counter balance with the oxygen ones that trees and nature can deploy. The result is an excess of CO2 in negotiation with extinguishing O2.

using Google Forms. To facilitate the participation of a larger number of users, participants had the possibility to fill the form in 2 possible ways: directly after the event using one of the tablets available in the IAAC Main Hall, or from their home, using a link provided to them.

METHODOLOGY

Lumina Foresta is an interactive installation developed with the following computational design technologies:

Construction:

Lumina Foresta 10sqm installation was built by architectural students that used specific 3D design tools, mainly Rhino with Grasshopper plug-ins. Working in 3D allowed the transfer of their designs and geometries to rapid 1:1 fabrication. Using sustainable materials (mainly wood and semitransparent textiles) the pavilion was built using a big format milling machine, laser-cut and 3D printing allocated in the atelier facilities of IaaC.

The first part of this interactive installation consisted in the use of gamification strategies and interactive digital technologies **to engage citizens in a process of awareness rising on there-naturalization of the public space.** Thanks to the use of advanced digital technologies, including video mapping and Computer vision, participants were able to interact with their body movements in front of the installation that projected color patterns to make them aware about their CO2 emissions and the need of trees to compensate them.

In particular, the installation visualizes the CO2 particles part of the footprint of the users, and shows the Oxygen produced by one tree. For each Oxygen Particle produced by the tree, 500 CO2 particles are visualized when a person walks near to the installation, making the participants aware about the need of trees to compensate for their emissions and to keep the environment in a state of balance. The sophisticated technology of Lumina Foresta allows a playful interaction, generating a different experience according to the movement and the number of the users.

The second phase of the Open Game Event represented a **call for action to citizens as co-designers of the public space** by becoming tree-planters and suggesting possible configurations of the public realm.

In this second part of the OGE, participants received tailored-designed "Seed Bombs" that contained different types of plant seeds. They were asked to distribute them on the areas of the public space that they would like to renaturalise based on the knowledge gathered in the first phase. At the end of the event, they received these "Seed Bombs" as artifacts for placemaking action to be used in different areas of the city, spreading the impact of the installation on a broader urban dimension.
The ultimate goal of the installation was to raise awareness among participants on the positive impact that nature has in cities. The visualization of the CO2 that each citizen body emits, empowers them to express more informed decisions on how to transform and renaturalise the public space.

IMPACT AND CONCLUSIONS
The Open Game Event in Barcelona was a very successful experience under several aspects. The good participation of citizens, and the capability of engaging an audience-by-surprise, proved the **usefulness of advanced technologies and playful interaction to open up co-design processes to citizens.**

Moreover, **the objective of designing a flexible and scalable installation was addressed and successfully tested** due to the change of location. Even if the installation was initially conceived for a different location, it demonstrated to be adaptable to other contexts.

Furthermore, the impact on the audience was proven to be very positive in the surveys collected. The majority of the participants answered positively to the following questions: After this activity, do you feel more aware about the future of gaming for city co-design? After this activity, do you feel you have gained knowledge on the use of digital and non-digital technologies for city co-design? After this activity, do you feel you have
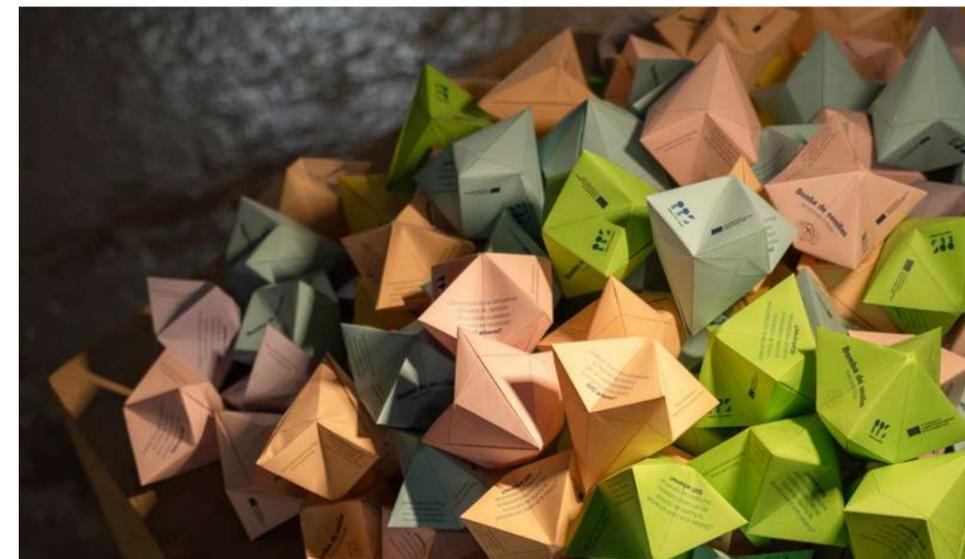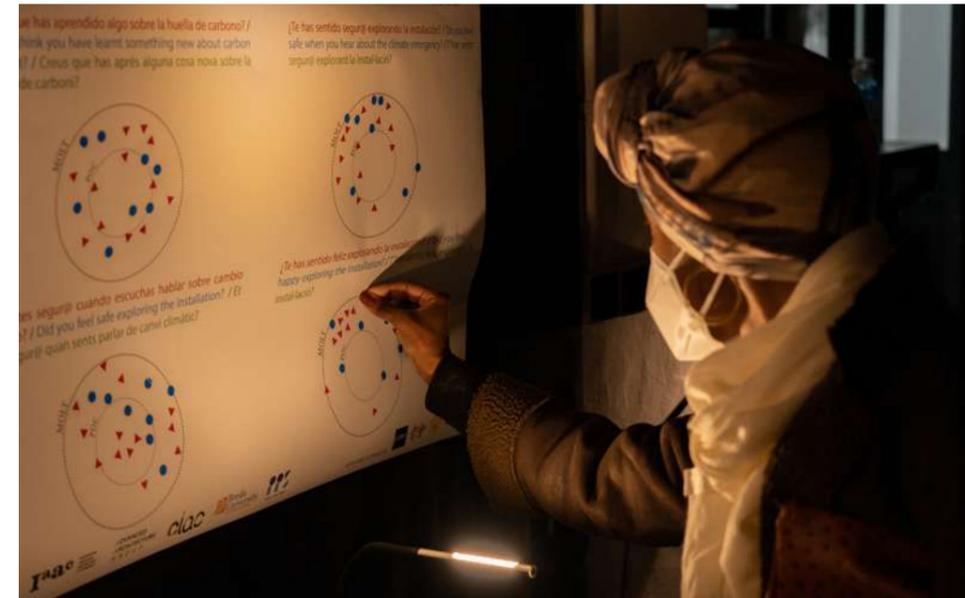
gained knowledge on participatory processes targeted at urban space co-design? Do you feel you have gained knowledge on public space co-design? Do you feel you have gained knowledge on public space co-design? Do you feel you have gained global comprehension on how to use games and advanced technologies towards the production of inclusive, cohesive, and sustainable public spaces?

Open Game Event in Breda
From Smart Games
to Smart City Planning - Scithos

On the 1st of June 2021, Breda University of applied sciences, in collaboration with the municipality of Breda, finally hosted its Open Game Event. In this event, open to citizens, visitors that were passing by the University Campus, students from the smart city course and invited city planners from the municipality played the serious planning game SCITHOS, with the aim of investigating to what extent games can lead to a deeper understanding of balancing different needs in a city to make attractive, inclusive, and playful cities.

SCITHOS simulates how urban tourism contributes to (local) economic prosperity, but also its negative impacts with the discussion now focusing on over-tourism, CO2 emissions and waste, which harm the quality of life for residents and the quality experience of visitors. Current developments such as COVID-19, on the other hand, make the tourism industry very fragile and vulnerable. The Smart City Hospitality (SCITHOS) project addresses these issues by supporting cities to make the transition towards resilient and responsible tourism. By combining hospitality principles, simulation tools, apps, and serious gaming techniques, the SCITHOS framework serves as the reference point for context-specific discussions about urban tourism with the Smart City Hospitality Project.

Based on an extensive literature review and over 50 interviews with stakeholders in six participating cities, the SCITHOS framework combines current thinking on sustainable development with city hospitality and resilience. The framework places the discussion of city tourism in a systems perspective to create a more holistic discussion of the role and impacts of tourism in a city. The project and game stimulate collaborative forms of decision-making, even for a subject like city tourism development, which has in recent years been characterized by its divineness.

Due to official COVID restrictions, the Open Game Event had to be undertaken with a smaller audience of students and city planners: 22 in total. We arranged a big room that can normally host 80 people. To minimize the risk, we divided the participants into two groups: the first group played in the morning and the second group in the evening.

The participants consisted of both students and planners from the municipality (audience by habit and by choice). For the students, the Open Game Event was part of their smart city course. Public Play Space acted within this course as an educator, by giving guest lectures, and as a client, since we asked them to build a game to facilitate dialogues about spaces and their functions. Within this course, we used SCITHOS to showcase the potential of games. Visitors and neighbors, non experts in city planning, were invited to play the game, learn new skills about urban planning, and understand the potential of co-design processes through gaming.

Four members from the municipality participated in the game. They were project managers, mobility planners, and financial specialists, and were brought on board with help of a senior urban planner from the municipality of Breda.

METHODOLOGY

The serious game SCITHOS, can be tailored to specific locations. For the Open Game Event, we tailored it to the needs of the municipality of Breda. We analysed those needs through a combination of data analysis and interviews with the municipality experts.

From this analysis, we derived the following context and narratives for the game that was used during the Open Game Event: Breda is an accessible city that hosts many different cultures, has a rich historical and architectural heritage in the city centre, and is doing promising pilots when it comes to digitalisation and sustainability. Breda is also one of the richest and right-wing cities on the financial and political spectrum in the Netherlands. For years, the municipality council has been dominated by neo-liberal parties with an affinity for cars. Due to its geographical composition with a very

centric approach to the old city centre, south of the rail track and a more sprawled approach north of the rail track, it is also quite segregated, which could lead to very different experiences of living in this city.

This context leads to the following challenges:
For years, Breda has been one of the prettiest cities in the Netherlands when it comes to architecture. One might feel that it leaned a bit too much on being the prettiest girl in the class. She is not very daring and is quite conservative in experimenting. At the same time, other cities are becoming more competitive by the year. Breda is missing big attractions like the Nijmegse vierdaagse or the museum the Fundatie in Zwolle. It is all quite average resulting in good visitation numbers from people who live close by, but it struggles with attracting visitors who live further away. How can it become more attractive, not by growth but by increasing the quality of the experience to attract visitors who come for more than shopping and the catering industry?
As mentioned, Breda is quite segregated due to a big barrier: the railway
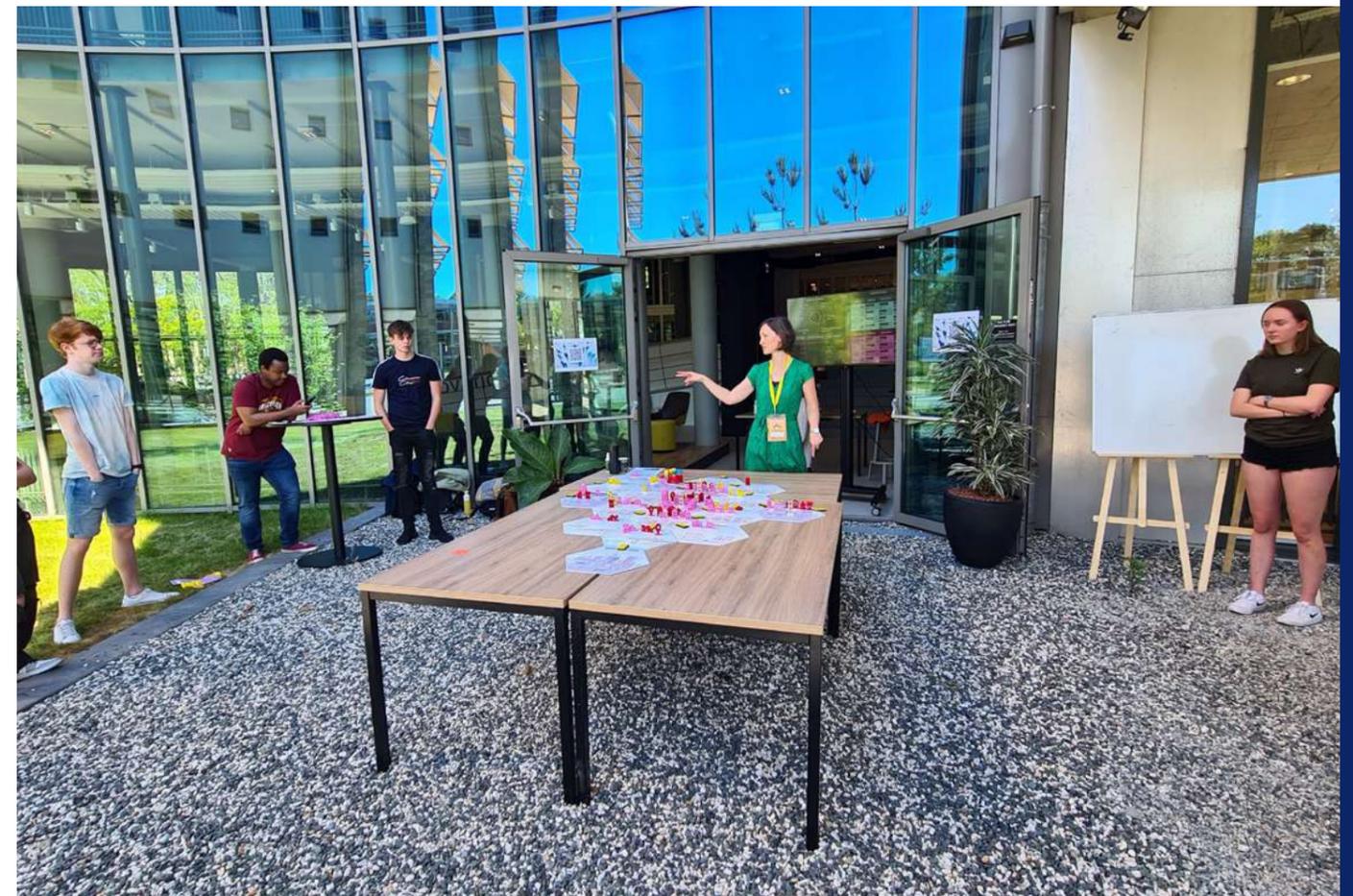
tracks. This results in parallel lives of inhabitants who experience the city very differently depending on where they live. A lot of money is being pumped into Breda North on a yearly basis. Within the Belkrum neighborhood the situation is improving, in the other neighbourhoods in the north, the quality of life is not increasing, it is even decreasing. Income, health, life expectancy, happiness, school dropouts are all substantially lower in the north than in the south. Breda is currently working on another tunnel under these tracks, but how can you also connect it content-wise and increase the quality of life at the same time?

Breda has a strong collaboration with the private sector to maintain a strong and attractive city centre. Both these private organisations and the municipality realise that action is needed to maintain being competitive. This might result in a strong emphasis on the monetary economy and less emphasis on free cultural leisure. Breda is currently working on a brand strategy, but it struggles with defining its selling points. How can Breda
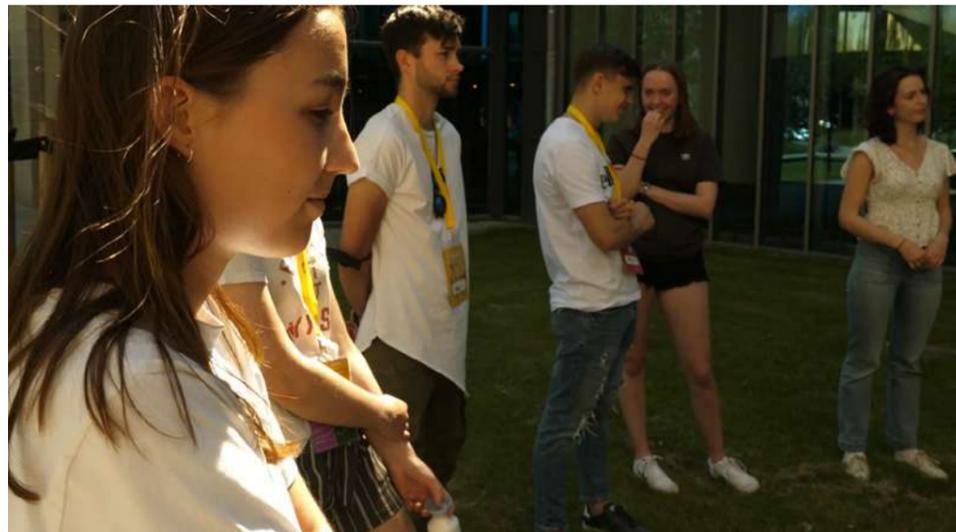
diversify what it has to offer with help from these private organisations without harming the competitiveness of the city centre?

Based upon the interviews and the data analysis, we adjusted the parameters of SCITHOS that resulted in a tailored dashboard that reflects the current status of the municipality of Breda.

The Open Game Event "From Smart Games to Smart Planning" used SCITHOS to bring policymakers and stakeholders together, to deeply reflect on appropriate context-specific intervention strategies for sustainable urban tourism development.

By translating 'real life' situations into gaming elements, a game 'reality' is created that can act as a 'window to the world' that is somewhat less complex and political. The game play takes around two hours, players are invited to join free and experimental discussions that contribute to fruitful insights and greater understanding of each other's perspective on sustainable urban tourism planning.

Following an extended debriefing of the game experiences, a translation to the real-life situation is made to provide stakeholders with an option to further reflect on city tourism in their city and ways to make it more sustainable.

The SCITHOS challenge itself is a combination of an 'analogue' board game and a computer simulation, which is generally played by a group of 15 to 20 experts and policy makers.

The players work in different teams, representing stakeholders to develop a sustainable urban tourism strategy for their city. The city in which we plan the challenge is represented by a city map, which serves as the planning platform for the team-actions and based on a flexible design, meaning we could play with a representation of Breda, Palermo, Barcelona or almost any other city.

Players insert actions by placing 3D miniatures of hotels, theme museums, parks, bike rentals etc. onto the game board, as well as proposing policies that contribute to their followed tourism strategy. Players will

see the outcome of their actions on a visualised game dashboard, which gives indications for actions for the next game round. Feeding back this information to participants is used to start a discussion that should help stakeholders reflect on complex issues such as: for whom is the city? How to ensure a long-term livable city? How to deal with different perspectives of residents and ensure smart citizenship? How to ensure that city tourism's contribution to climate change remains within limits?

The discussions and reflections should help stakeholders to appreciate the true complexity of sustainable development. The ultimate aim is to help decision makers to understand and respect other stakeholders' perspectives. and learn from each other. By stimulating stakeholders to engage in these discussions, this intervention might invite people to continue the debate after the gaming session and reflect more deeply on the complexity and underlying issues for city tourism as part of wider city development. In the future, this can stimulate more collaborative forms of decision-making, even for a subject like city tourism development, which has in recent years been characterized by its divisiveness.

OUTCOMES

The Open Game Event in Breda was a very successful experience considering the COVID-restriction circumstances. There was a very good level of participation among the parties, the learning experience was meaningful, and the audience got a taste of what a sophisticated serious game can look like.

We managed to reach the following objectives as stated in the proposal. The event took place in 1 day. Stakeholders were engaged in co-designing neighborhoods in Breda. This activity allowed public institutions representatives to experiment with the use of novel methods of co-design and placemaking with students and we also collected data about needs and desires with two surveys, statistical data analysis, and interviews. This game contributed to strengthening confidence in participatory processes, education, and revolved around inclusiveness (learning about other citizens' needs and desires) and sustainability (co-designing more

efficient and resilient public spaces).

The impact on the audience was proven to be very positive. In fact, 24 participants filled in the survey. We asked a range of questions in a pre- and post-game survey. In the pre-survey, we asked them about their expectations of serious games.

Before playing SCITHOS, 42% stated that they never played a serious game before. 46 % stated they did and 12,5% stated they were not sure. This means that a substantial amount of the players had some experience with serious games. 75% said they were looking forward to playing the game. 65% expected to gain content related knowledge and learn how to see connections between stakeholders. It also showed the importance of games because 79% expected to be able to practice in a safe environment which indicated that there is a strong demand for it.

Also, in terms of learning the game was a success. 65% stated that the game made them aware of issues they did not know before and 55% said that it boosted their interest. 85% gained new insights into the complexity and 75% gained more insights into conflict and cooperation between stakeholders for planning.

IMPACT AND LIMITATIONS

The Open Game Event in Breda was a success. There was good participation under the COVID-19 related circumstances. Participants were very eager, enthusiastic and curious about the potential that games can have for participatory planning. BUAS was in charge of exploring the technical aspects of this kind of games and proved to be successful at that. The SCITHOS game was tailor-made to the challenges in Breda with real data and real cases. Comprehending and processing technical, big amounts of data is often difficult to comprehend for people in general. Within SCITHOS, we were able to solve this technical challenge and translate this data and prediction models, to an understandable dashboard that the participants were able to understand and use for the development of their strategies in the game. The municipality of Breda was especially enthusiastic about this possibility since they often experience the same challenge of making data accessible for the public in their own projects. They even expressed their willingness for further collaboration on this in the future.

As stated above, the survey proved participants learned a lot and many of them expressed they want to work more with games in the future.

We also discovered some limitations within the game. Since the data is collected on a city level, it proved not to be possible to dive into the social-economic specifics on a neighbourhood level. This is something we want to further investigate in the future since the digital infrastructure of the game seems to grant possibilities to make this possible.

VIRTUAL
EXHIBITION

VIRTUAL EXIBITION

The Final Exhibition is an activity designed to promote the knowledge generated in the previous actions, from the State-of-the-art catalogue, to the teaching modules during the Creative & Capacity Building Workshops and the organized into the co-production of the Open game events, amongst the widest audience. The initial strategy of the project was to develop an itinerant exhibition, with digitally fabricated panels that could be deployed in different cities, including Breda, Palermo, Barcelona, Stockholm, Porto. However, considering the limitations imposed by Covid-19 to any public gathering, the consortium agreed on developing alternative solutions that could be hosted in a virtual environment. After considering several alternative solutions, from videos to AR environments, the PPS consortium decided to develop a multilevel strategy, composed of a *Virtual Exhibition*, a *Wiki Platform* and a *Placemaking parade.*
WIth the objective of achieving the greatest possible audience, these actions are hosted on a website, avoiding complex technologies that might have reduced the public, and even exclude low budget individuals or elderly people.

The **PPS actions exhibition** guides visitors through the different actions developed by the project in a simple and effective way, and is structured by a concise and accessible text together with a synthetic iconographic contribution.
 The **Wiki Community Platform** is an open source knowledge-community on the use of digital technologies and games to enhance participatory processes for urban design and placemaking. Numerous projects are collected and contribute to the Wiki platform, open to researchers and practitioners willing to publish projects and innovative practices.
The **Placemaking Parade** lets visitors experience an exploration of placemaking experiences in the three PPS partner cities: Barcelona, Palermo and Breda. Using satellite maps, they are able to navigate through different public spaces and explore the different placemaking strategies introduced by local actors.

▲

Virtual exhibition section dedicated to the Wiki Community Platform. Researchers, practitioners and citizens can submit new projects creating a crowd-sourced database on Public Play Space projects

◄

Virtual exhibition with access to the PPS Actions Exhibition, the Placemaking Parade and the Wiki Community Platform
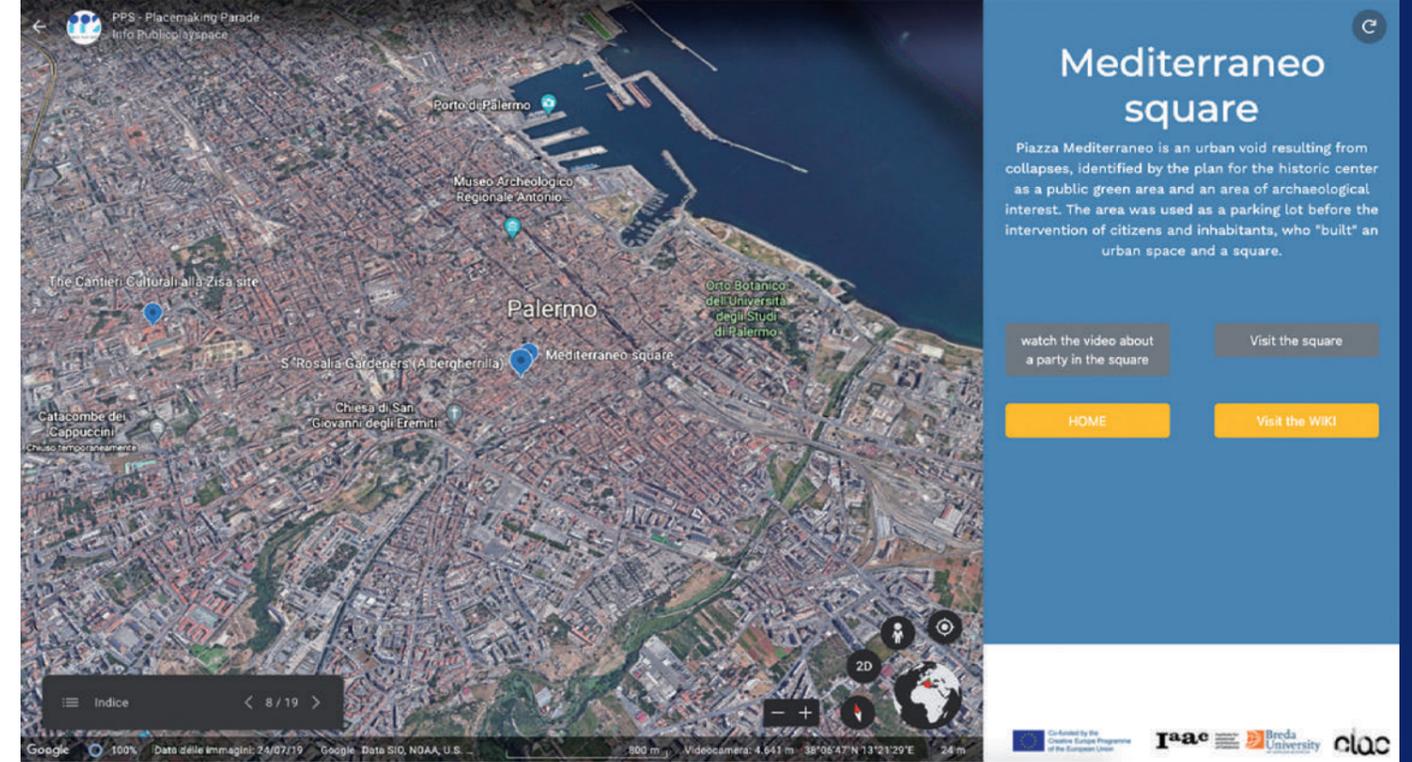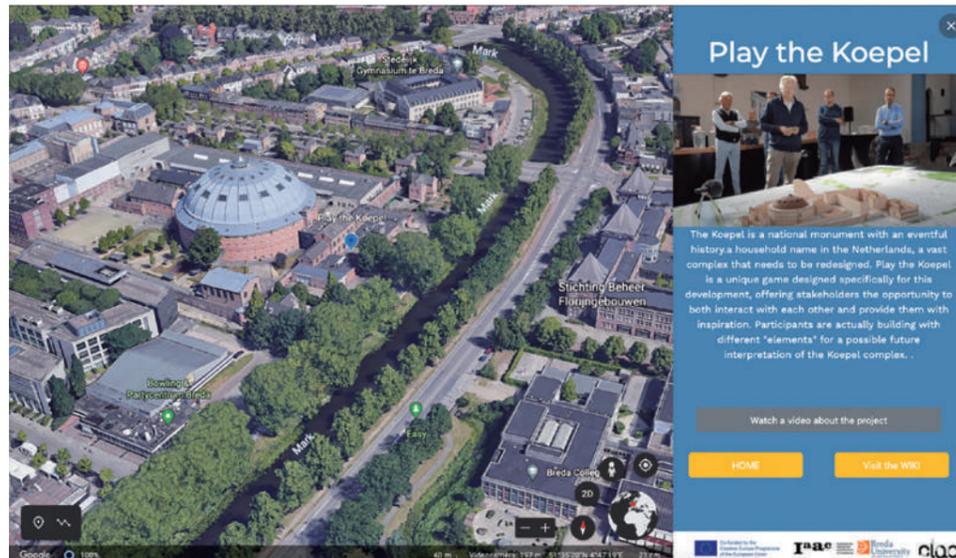
The Placemaking Parade is not only an instrument to collect experiences from very different parts of Europe; it is also a way to experiment with connections between digital and tangible reality. It is a short circuit in which the actions made in the real world are told in the digital geographic simulation of Google Earth. This aspect can open a reflection about the dialogue between information and digital platforms. Google Earth is a platform that reproduces the real world through a series of artifacts:

- The azimuthal view of the earth
- The bird-eye view of the earth
- The 3D reconstructions of orography and of buildings
- The 360° Spherical photos

This set of information is ready to be told through a story. The 18 stories of placemaking actions collected in the PPS project, mix the information provided by the platform with other information provided by the project. From this point of view, such a kind of narrative experience can be intended as a game too that is in an equal way influenced by the platform, with its rules and its contents and by the contents generated by the project.

At the end of the project, in September 2021, the exhibition had been accessed **more than twenty five thousands times (>25.000),** representing a tremendous success for the project.

PUBLIC PLAY SPACE *SYMP●SIUM*

14-15 July 2021
Online

publicplayspace.eu/symposium

Co-funded by the
Creative Europe Programme
of the European Union

PUBLIC PLAY SPACE

Iaac · Institute for advanced architecture of Catalonia

Breda University OF APPLIED SCIENCES

clac

FINAL SYMPOSIUM

FINAL SYMPOSIUM

The international symposium took place online on 15th and 16th July, involving the whole consortium (IAAC, BUAS, CLAC), representatives of EU Agencies and institutions as well as invited keynote speakers. The objective of this action was to ensure not only an academic-political dissemination of the work developed in the project, but also to build a platforLink to folder m to share knowledge and bring experts and international stakeholders, increasing the audience development and capacity building of the project.

The symposium was organised and chaired by IAAC, and was articulated in two days, hosting three thematic panels with internationally renowned keynote speakers, as well as two panel presentations of papers and projects collected with an Open Call. Moreover, it represented an international platform to present the results of the project, including the online virtual presentation and the *State-of-the-Art* catalogue.
The event counted on a broad public, following the live streaming as well as the recordings.

The symposium was organised around the following topic:

- Responsive Technologies and Playful Platforms;
- Serious Games for the Co-design of the Public Space;
- Gamification, Play and Community-based Strategies.

The open call represented a crucial action to further extend the audience of the project, as well as to strengthen the capacity building strategies, as it brought new valuable contributions to the project. Papers and projects were selected by the scientific personnel of the consortium and were published in a dedicated book of proceedings.
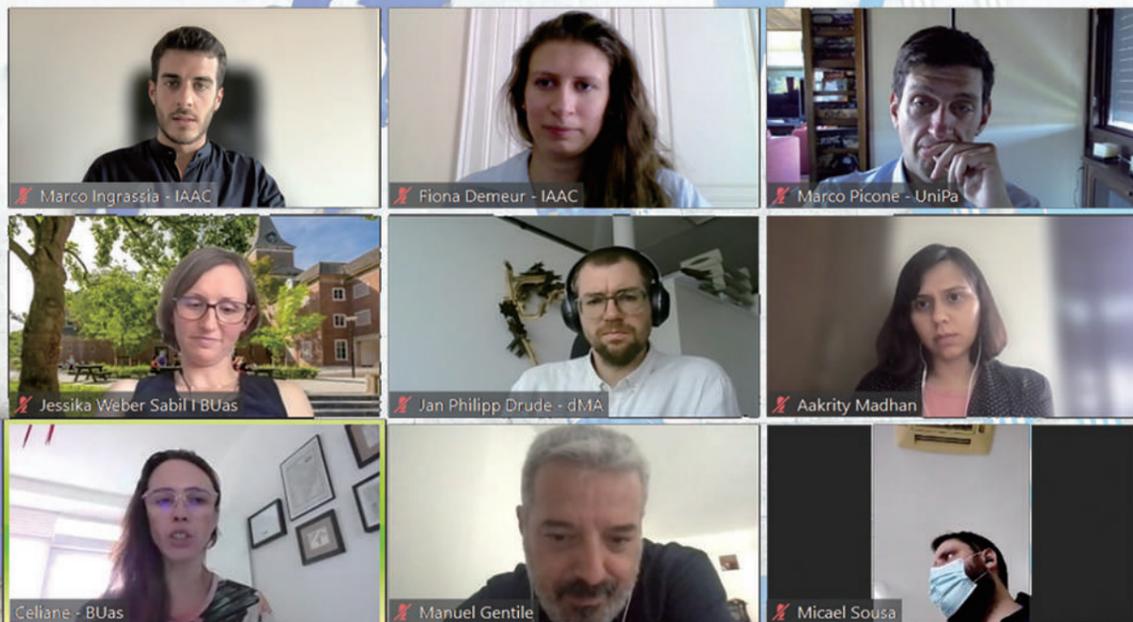
CALL

The call of the Symposium aimed to highlight the multidisciplinary approach of the project, inviting experts of several fields to contribute or simply follow the two-days activities.

The call is reported below

> *Public Spaces play a key role in urban systems, by both acting as physical manifestations of societal relations and imaginary, as well as structural nodes that contribute to the resilience and functionality of cities. The COVID crisis itself has underlined this, calling for public spaces to quickly adapt and embed novel behavioural and utilization patterns in order to address the changing needs of communities.*
> *The importance of societal engagement in the process of design and implementation of the public built environment is widely acknowledged*
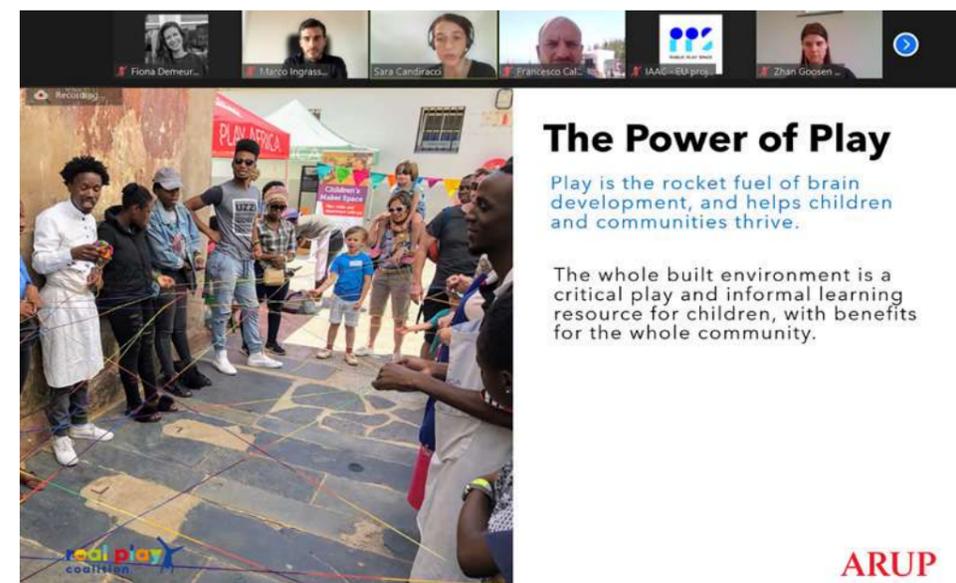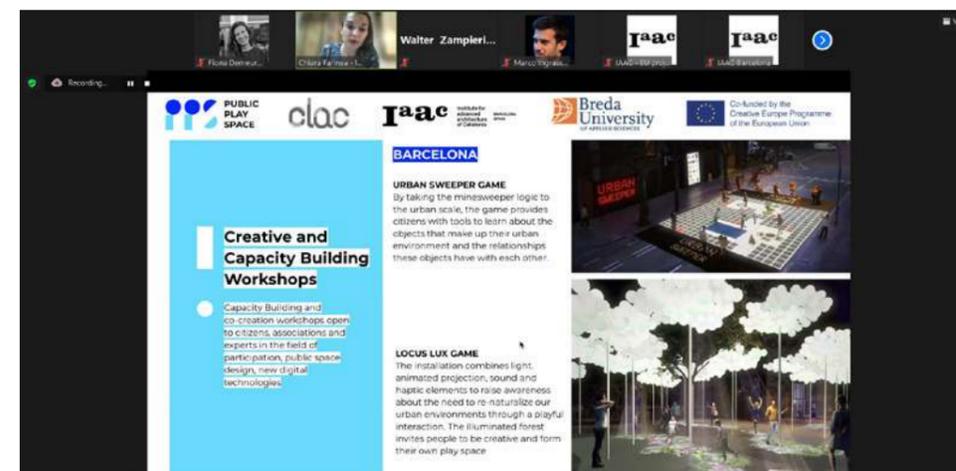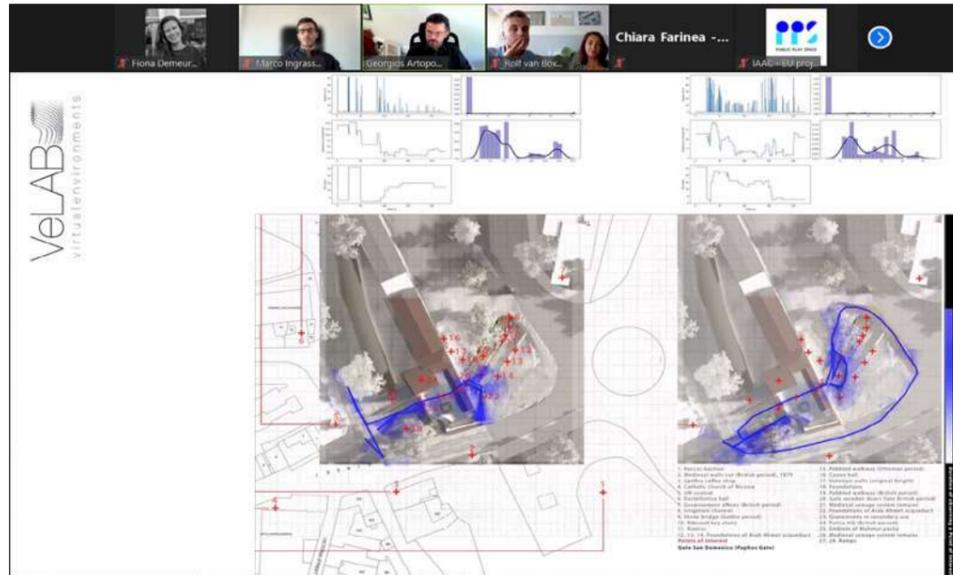
by policy makers and the scientific community. Over the past decades, there has been a surge of participatory and co-design processes worldwide including placemaking practices, calls for action, or co-design initiatives.

During the last decades, policy makers and city managers have started to use digital technologies as means to further engage citizens in the decision-making process. For instance, these activities can be supported by digital platforms which include features like polls for decision making, forums allowing interaction and discussion, or visualizations and animations in order to ease the communication of complex concepts. The concept of Gamification is also gaining importance; it is intended as a strategy to thoughtfully make these processes fun by applying game elements to real-world activities. The objective of this addition is to trigger more appealing and engaging participatory practices, as well as incentivizing active and consistent behaviour of the participants. Games are in fact demonstrated to have a motivational effect on their users, consequently increasing their level of participation. Some of the dynamics applied include rules, competition, outcomes, conflict, and other gameful or playful elements.

When applied to participatory practices for co-design in Public Space environments, gamification and responsive digital technologies, such as Virtual and Augmented Reality or Digital Interfaces, can become powerful tools to tackle the limitations of conventional methodologies. This contributes to widening the audience, ensuring the inclusivity of proposals, as well as to increasing the accessibility of design activities to non-expert citizens, empowering them as agents of transformation of the public realm.

The combination of Responsive Digital Technologies and Gamification Strategies can also empower designers with a wide range of applications. These include stimulating citizen reflection and civic
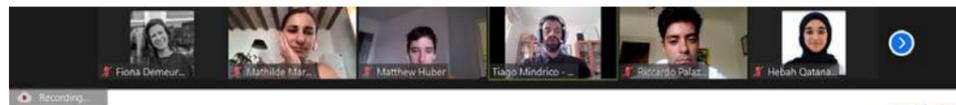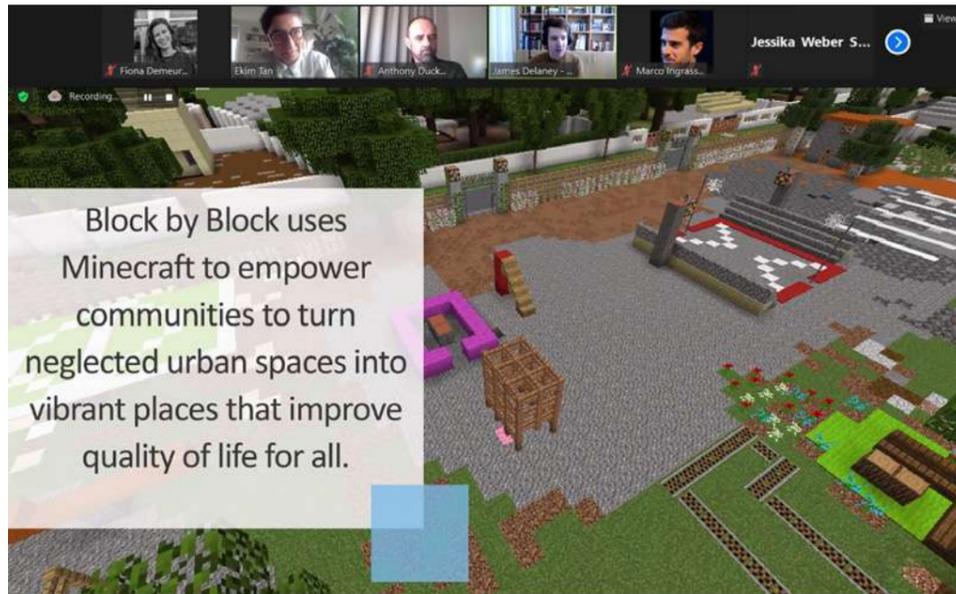
Labirinto Urbano [Urban Maze]
RESULTS ANALYSIS

Urban Maze Game Kit, Tiago Mindrico, 01/06/2019.

(CRIAL - Almeirim Children's Recovery Center) operational assistant placing an "Ariadne thread" on the pole during the Urban Maze experience, Tiago Mindrico, 25/06/2019.

learning; generating interaction and resolving conflicts between citizens with contrasting views; promoting values such as sustainability, coexistence and circular economy thanks to the purposeful use of objectives, challenges and tokens; simulating the impact of different design solutions; and generating awareness and informed decisions thanks to data visualization and indicators.

KEYNOTE SPEAKERS

The Symposium counted on the contribution of several keynote speakers including:

- Ekim Tan - Play the City
- Jorg Rainer Noennig - Hafencity Universität Hamburg - TU Dresden
- James Delaney - Block By Block
- Sara Candiracci - ARUP
- Luke Pearson - UCL Bartlett - Videogame Urbanism
- Anthony Duckworth - AUDRC (UWA) & Fairplace
- Helmut Schrom-Feiertag - AIT Austrian Institute of Technology
- Francesco Caldarola - Cultural and Social Innovation
- Fabio Viola - TuoMuseo Founder and Gamification Designer
- Jessika Weber-Sabil - SCITHOS Location based Games
- Mattia Thibault - Tampere University

Furthermore, the winning proposals from the PPS State of the Art Catalogue also presented their projects.
- Georgios Artopoulus: Virtual Environments as a Technological Interface between Cultural Heritage and the Sustainable Development of the City
- Rolf van Boxmeer and Tessa Peters: Redesire Project
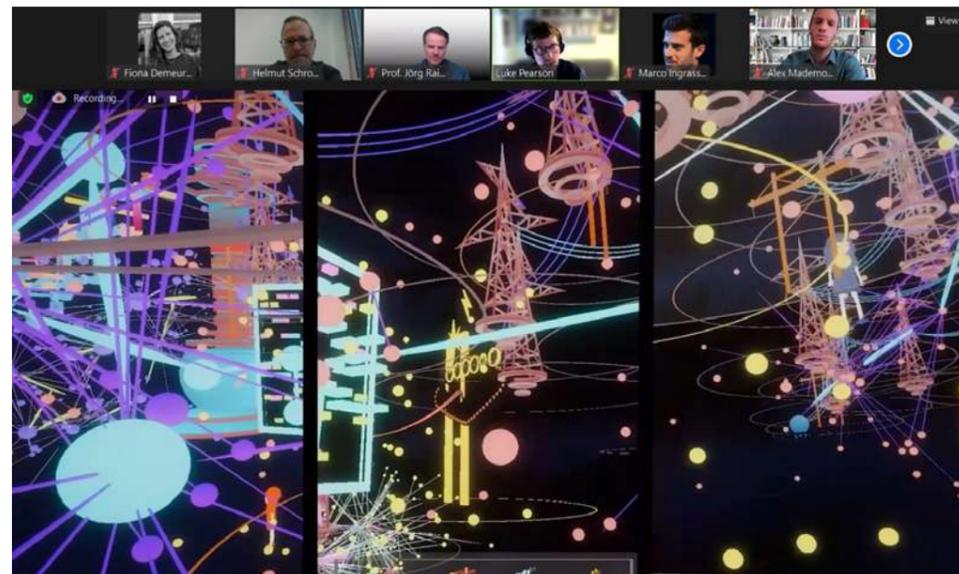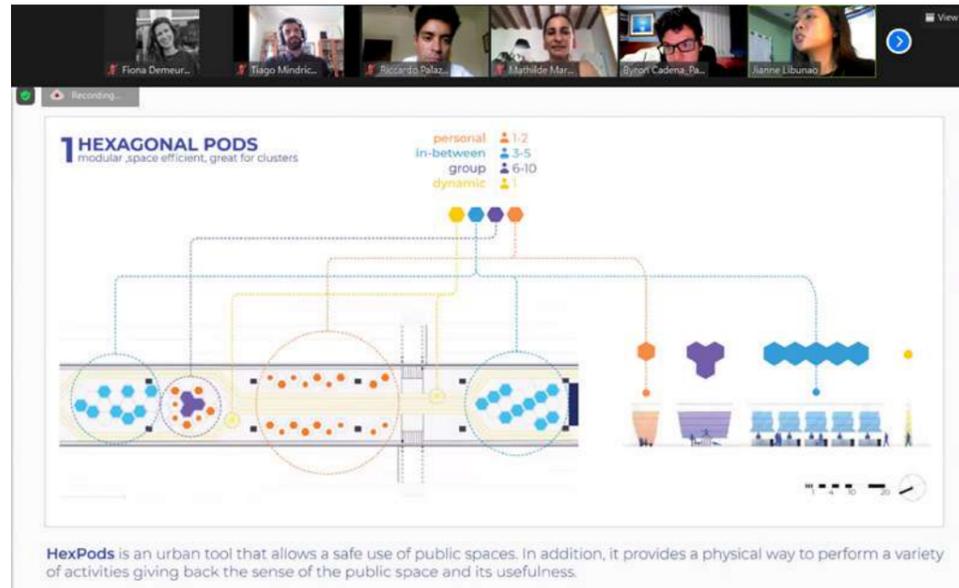
CALL FOR PAPERS AND CALL FOR PROJECTS

Submissions proceeded from several countries, including Spain, India, USA, The Netherlands, Austria, Puerto Rico and Australia to name but a few. Papers and projects were submitted by professionals, researchers, PhD candidates and students.

After reading and analysing all the papers, the Scientific Committee selected 15 papers for which the authors prepared 7 minute presentations to present their work at the Symposium.

- Jan Philipp Drude: Project DisCo As A Participatory Platform
- Micael Sousa: Modern board games and modern urban play: Design and interaction advantages to foster social and participatory planning
- Kritika Kharbanda and Aakrity Madhan: CarbonCrunch
- Marco Ingrassia: Game-based Participatory Urban Design
- Jon Aguirre Such and Costanza Tremente: From Gamification to Integrated Urban Regeneration
- Jessika Weber Sabil: Taking Sustainable Tourism Planning Serious – Co-designing Urban Places with Game Interventions
- Marco Picone and Manuel Gentile: Mind Games
- Maria Tome Nuez: What is Playmaking? The power of video games to build ways of inhabit that cares
- Matthew Huber and Dana Cupkova: Rocking Cradle: Interactive

urban furniture in pursuit of environmental attunement
·   Riccardo Palazzolo and Hehab Qatanany: Time Uses, Space Design: Adaptable use of spaces based on citizens time use
·   Tiago Mindrico: Labirinto Urbano: Ludification as a form of civic and urban communication towards inclusion
·   Byron Esteban Cadena and Jianna Romero Libunao: Hexpods. New Paradigm: Reprogramming Public Space During Covid-19
·   Parichehr Goodarzi: Holistic real data-driven decision support tools for integrated building-landscape regenerative design process
·   Sana Paul and Osama Firoz: Public Human Design
·   Nick van Apeldoorn: Pokémon Go as a productive counter-space

Furthermore, the Scientific Committee also selected 15 successful posters that showcased innovative and relevant projects for the co-design of public space.

▶

PPS Symposium proceedings Book

▶

Pagg. 190 -191
Posters among the seleced in the PPS Symposium Call for Projects

▶

Pagg. 192 -193
PPS Symposium Proceedings Book

Public Play Space: Turning Urban Spaces into Public Places with Games and Play

PUBLIC PLAY SPACE *SYMP●SIUM*

14-15 July 2021
Online

Registration and info at
publicplayspace.eu/symposium

Day 1 - 14th JULY 2021

10:00 - 10:10	**Welcome Remarks**
10:00 - 10:20	**Introductory Remarks**
	Walter Zampieri — Head of Unit Culture policy and Intercultural dialogue at European Commission
10:20 - 10:45	**The PPS project Experience and Virtual Exhibition**
	Chiara Farinea — IAAC
	Igor Mayer — BUas
	Davide Leone — CLAC
10:45 - 11:40	**Panel 1 - Responsive Technologies and Playful Platforms**
	Athanasia Tsertou — ICCS, CIBOS
	Jörg Noennig — TU Dresden, Hafencity Universitat
	Helmut Schrom-Feiertag — AIT Austrian Institute Technology
	Luke Caspar Pearson — UCL Bartlett
	moderated by: — Alex Mademochoritis (IAAC) and Nick van Apeldoorn (BUas)
11:45 - 12:00	**Break**
12:00 - 13:00	**Panel 2 - Serious Games for the Co-design of the Public Space**
	Ekim Tan — Play the City
	James Delaney — Block by Block
	Anthony Duckworth — AUDRC (UWA) & Fairplace
	Jessika Weber-Sabil — SCITHOS/ location-based games
	moderated by: — Igor Mayer (BUas) and Chiara Farinea (IAAC)
13:00 - 13:15	**Break**
13:15 - 14:15	**Panel 3 - Gamification, Play and Community-based Strategies**
	Sara Candiracci — ARUP, Inclusive and Resilient Cities
	Francesco Caldarola — Cultural and Social Innovation
	Mattia Thibault — Tampere University
	Fabio Viola — TuoMuseo
	moderated by: — Zhan Goosen (Buas) and Davide Leone (CLAC)
14:15 - 14:45	**Presentation of Winners of State of The Art Catalogue**
	Georgios Artopolus — Virtual Environments as a Technological Interface between Cultural Heritage and the Sustainable Development of the City
	Rolf van Boxmeer and Tessa Peters — Redesire Project
14:45 - 15:00	**Closing Remarks**

Day 2 - 15th JULY 2021

10:15 - 10:20	**Welcome**
10:20 - 10:30	**Presentation of the selected posters visualization platform**
10:30 - 11:50	**Papers Presentation**
	Gamification and Serious Games for the co-design of Public Space
11:50 - 12:10	**Break**
12:10 - 13:30	**Papers Presentation**
	Interactive and Community-based Strategies for the co-design of Public Space
13:30 - 14:00	**Closing Remarks**

Co-funded by the Creative Europe Programme of the European Union — PUBLIC PLAY SPACE — Iaac Institute for advanced architecture of Catalonia — Breda University OF APPLIED SCIENCES — clac

MIND THE STEP
CO-CREATING PUBLIC STAIRCASES

INTRODUCTION
3D-SCANNING
HUMAN ACTIVITY RECOGNITION
TRANSFORMATION
EXPERIMENT
SIMULATION

ACTIONS TO IMPROVE THE NUCLI ANTIC

SUBJECTIVE CARTOGRAPHIES:
a mirror of diversity
Collaborative workshops in Raval district, Barcelona

64 WAYS ✕⊕
— OF BEING

SEE YOUR CITY THROUGH NEW EYES

64 Ways of Being
augmented reality art experience 2021
Dr Troy Innocent / one step at a time like this / Millipede

A new theater square for the Yak community. Designing the public space through performative activation in Varese

The proposal seeks to produce a module that can be replicable in various unused contexts of the city, especially in places whose surroundings bring great attraction and lead to agglomerations. For this exercise, 4 examples of its deployment are done in contexts such as: overpasses, disused covered spaces, parking lots or subway levels, and also in open public spaces to facilitate static activities.

To implement the project in the public space, it is necessary to ensure that the community is involved in its design and construction. The modules are made from a simple corrugated rod structure and an enveloping textile, which makes it easy to afford. The supporting structure is made of metal tubes anchored to existing urban structures such as bridges, overpasses, slabs, or any element where it can be suspended. In this project, the most needed resource is the commitment of inhabitants and the municipality because they have to take the risk of adding new ideas to the city, they must see it as a laboratory to experiment. The size of the modules varies according to the place they are deployed, but in all of them the minimum recommended height is 2.30m.

The Pods add a new value to the spaces where they are set. They not only allow to perform a great range of activities. In fact, they also offer a variety of technological solutions to optimize the user's comfort. There is digital communication using an app that allows to control the level of coverage needed for the activities, lighting, and all the sound and Wi-Fi systems are powered up by the base structure that carries energy to the different Pods. Finally, its material guarantees the correct ventilation and protection against solar radiation.

In order to help the user's experience an app was designed. Its interface enables not only the use of Pods, but also allows the municipality to measure the impact and justify the cost of project's implementation. The app allows the user to book a Pod or a set of Pods depending on the activity they want to develop. In addition, people can register to the different activities that the municipality promotes on the site such as events, concerts, exhibitions, and fairs. The data and experience of each user will be recorded in the system to make a responsive project to the different requirements and problems.

6. RESULTS

This project is a research that proposes a methodology to generate solutions in public spaces during a period of pandemic (new paradigm). The result is not only about the deployment or construction, it wants to raise awareness about the characteristics that any solution proposed during the pandemic should have. Initial research on the new conditions of public space gave the following results:

- Activities in the public space decreased by 60%, but movements from points A to B went up considerably. This means that the static or permanent activities were replaced by the dynamic and temporary ones.
- New activities and forms of urban life have emerged in public spaces: temporary, successive, and personal.
- The restrictions and limits that have been set in spaces that bring a lot of attraction such as, squares or parks, are neither enough nor easy to understand.
- Due to restrictions on automobile use, pedestrian mobility has increased.
- Spaces in disuse, abandoned or where the probabilities of contagion are high have simply been closed.
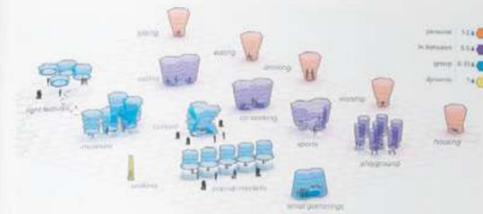
2 MULTI-USE PODS

Figure 6. HexPods catalogue. (Libunao, 2020)

3 FLEXIBILITY

Carrer A   Glòries   Barceloneta   La Rambla

Figure 7. Adaptability of the HexPods proposal. (Libunao, 2020)

4 PERFORMANCE

Digital communication   Light + Sound   Protection   Comfort

Figure 8. Performance and constructive system of the HexPods. (Libunao, 2020)

7 BUILT-IN APP
Integration of Big Data for better experience

Figure 9. App HexPods. (Cadena, 2020)

**COLLATERAL
ACTIVITIES
and DISSEMINATION**

COLLATERAL ACTIVIES
AND DISSEMINATION

To strengthen the audience development and capacity building strategies, the PPS project put in place a series of collateral activities, from local actions in the host cities to virtual gatherings, from highly specialised seminars in local universities to open activities addressing a wide audience, including audience-by-surprise, from theoretical reflections to experimentations with games in the public space.

These activities, together with the structural actions of the projects described above, were supported by an intense and multiplatform dissemination plan, which counted on the use of the website of the project and the social media accounts (instagram, Facebook and Twitter).

 The dissemination and communication strategies were crucial, particularly since the beginning of the Covid-19 pandemic and the consequent lockdown, which posed severe challenges to any activity related to the public space and the possibility to organise gatherings.

◄
Public Space co-creation
in Barcelona
(Djs per Canvi, 2017)

WEBINARS, ROUND TABLE, WORKSHOPS AND SEMINARS

Webinar in the framework of Barcelona Architecture week 2020
GAMIFICATION AND PUBLIC SPACE CO-CREATION:
*PUBLIC PLAY SPACE AT HOME*
13th May 2020

This webinar was organised in the framework of the Barcelona Architecture Week 2020, an annual event organised by the City of Barcelona in collaboration with Mies van der Rohe Foundation and the Catalan Chamber of Architects. Due to the Covid-19 pandemic, the event was organised entirely online.
During the webinar architects and urban planners, experts in digital games and technologies and in participation strategies, discussed the most innovative and creative practices that have been developed in recent times for the co-design of inclusive, cohesive and sustainable public spaces through video games.

The event was articulated in 4 parts:
- PART 1: Theoretical introduction to 'Public Play Space'
- PART 2: Game mechanics by Nick van Apeldoorn, BUas and Game Strategies, by Davide Leone, CLAC,
- PART 3: Demonstration of the SuperBarrio App: a videogame for the co-design of public space,
- PART 4: Q&A

The webinar also aimed at contributing to the European Commission initiative, #CreativeEuropeAtHome, to virtually promote the cultural activities of European projects developed during the context of the coronavirus outbreak.
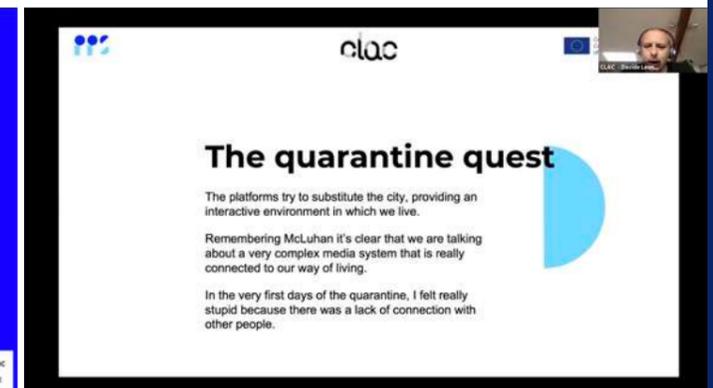
Round table and workshop in the framework of Barcelona Architecture "eek 2021
PUBLIC PLAY SPACE: INNOVATIVE PRACTICES, GAMES AND DIGITAL TOOLS FOR THE PARTICIPATORY DESIGN OF THE PUBLIC SPACE
14th May 2021

The round table and workshop "Public Play Space. Innovative practices, Games and digital tools for the participatory design of the Public Space" is a local event organised in Barcelona to promote and disseminate the activities developed in the Public Play Space project, and to connect and give visibility to placemaking experiences developed locally in the city of Barcelona.

It is an event organized by IAAC – Institute for Advanced Architecture of Catalonia in collaboration with the Taula Eix Pere IV Association, a local association of neighbours and civic actors of the Poblenou district in Barcelona, in the context of the 2021 Barcelona Architecture Week.

The round table aimed at debating on the challenges of public space generated by the pandemic crisis, and reflected on the potential of new digital and gaming tools to involve citizens in the participatory design process. Architects and urban planners, experts in games and digital technologies, and citizens interested in participation, will share their experiences developed in Barcelona and other European cities.

At the end of the round table (that was conducted in Spanish, and live-streamed via Zoom), a workshop offered those participants pre-registered to the event the possibility of experiencing and interacting with different participatory practices based on digital tools and games. The event took place in Can Ricart, Barcelona, and was live-streamed via Zoom.

"PPS Urban Board Game" project
(Public Play Space, 2020-21)

Seminar in Eindhoven
**HOW CAN WE DEMOCRATIZE DECISION-MAKING
AND MAKE PUBLIC SPACE MORE INCLUSIVE?**
1st March 2021

On Monday 1st March 2021, Nick van Apeldoorn from BUAS, led a seminar online for civil servants from the Municipality of Eindhoven.
Students at the Breda University of Applied Sciences Students (BUAS) worked in Eindhoven with primary school children to come up with games to make their school areas safer, more playful, and inclusive. During this seminar, Nick van Apeldoorn exhibited projects from the Public Play Space Best Practices Catalogue in order to contribute to their research and offered the theoretical background to uplift their concepts.

"Reinventing the wheel does not lead to stronger concepts, building up on best practices does." Nick van Apeldoorn, BUAS

Seminar at the University of Palermo
**THE PUBLIC PLAY SPACE EXPERIENCE:
A REVIEW OF PLACEMAKING ACTION IN PALERMO**
23rd March 2021

Davide Leone from CLAC, PPS Partner located in Palermo, led a seminar at the local university, in the framework of the "Town and Regional Policies" and "Strategies and services for territorial development" courses, and in collaboration with Prof. Barbara Lino.
During the seminar Davide Leone presented the work developed by the Public Play Space Project, introducing students to the topics of gamification and placemaking for participatory design, as well as describing the challenges and opportunities posed by the use of novel digital technologies. All the students of Architecture, Urban Planning, and Industrial design were invited to take part in the seminar. Moreover, the Webinar guided them through the placemaking spots within the city of Palermo and explained some of the games for placemaking selected inside the PPS Wiki.

PPS URBAN BOARD GAME

The PPS Urban Board Game is a **digitally fabricated game board that can be deployed in the Public Space of the city**, developed by IAAC - institute for Advanced Architecture of Catalonia, in the framework of the PPS Project. The Game enables **participatory design processes of the public space**, through **playful interaction and advanced digital technologies**. Following a DIY (Do-It-Yourself) logic, the **PPS Urban Board Game is open source and can be adapted to other cities**. In fact, it is downloadable, editable and ready to be reproduced in every Fab Lab in the world.

The board represents a sample neighborhood of Barcelona, with its streets, its blocks and its public spaces. Buildings are manufactured in recyclable plywood using Digital Fabrication tools, reproducing different typological elements of Barcelona's built environment, including multi-level contemporary constructions and smaller buildings creating the characteristic human-scaled environment of Barcelona's public space. Following a simple set of rules, **the player can develop a proposal for the design of the public space**, using different **"cards", which represent functions belonging to different categories:** *Health (physical and mental) and Safety, Resilience, Energy and Carbon Neutrality, Food, Circular Economy, Mobility*. Each player counts on an available budget of 50 points, which can be invested in the purchase of different modules for the city's public space. Each module has a value of 2, 3, 4 or 5 points, and belongs to one of six categories.

A **camera-tracker collects information on each proposal**, generating knowledge about the wishes of the citizens.
Moreover, the act of playing in the public space fosters interaction between citizens, creating awareness about the multiplicity and diversity

of opinions, desires and needs of the composite communities of the city. The use of a 3D environment was proven to be helpful to allow players to visualise and understand the scale of design and the spatial relations in the built environment. The *PPS Urban Game Board* can represent a great mediator for capacity building educational processes related to sustainability and inclusivity (Ingrassia, 2021).

PRESENTATION IN THE PARK(ING) DAY BARCELONA
The Park(ing) Day Barcelona is an event organized by ISGlobal (ISGLOBAL – Barcelona Institute for Global Health), Espai Ambiental Cooperativa (Espai Ambiental) in collaboration with the Municipality of Barcelona that aims at **transforming, for one day, public parking spots into parks, gardens, and other kinds of public spaces with the aim of vindicating that another kind of city is possible: greener, with less cars, and people oriented.** IAAC participated in the event, presenting the PPS Urban Board Game and occupying a public parking spot in the city of Barcelona. The project engaged several citizens in a participatory process with the aim of building and designing together the urban public space, while discussing the topics of circular economy,

resilience, carbon neutrality, green mobility, health, food, and more. The game dealt with the important topic of Public Space in a moment of radical transformation of the city. Faced with the new needs generated by the pandemic, the city of Barcelona had taken the decision to free up space previously occupied for mobility by car and for parking, and dedicate it to pedestrian use. New pedestrian routes were created in "Eixample" streets that were previously dedicated to vehicular traffic.

The game questioned the model of inhabitation that should be promoted for this novel public space. In fact, the pandemic demonstrated the need to imagine models of dynamic, adaptable and responsive public space over time, capable of adapting to different functions and wishes requested by citizens, towards the definition of a more inclusive public space open to communities that inhabit it. The PPS Urban Board Game presented itself as a new Arena for every citizen to be involved in the process of re-signification of the public space.

Credits IAAC: Chiara Farinea, Marco Ingrassia, Cristian Rizzuti, Raquel Villodres.

Public Play Space: Turning Urban Spaces into Public Places with Games and Play

2 **3** **4** **5**

HEALTH (physical and mental) AND SAFETY

CONVERSATION SEATS | ARTS SPACE | PLAYGROUND | FITNESS AREA

RESILIENCE

GARDEN | FOUNTAINS AND POOLS | NATIVE TREES | GREEN WALL

ENERGY AND CARBON NEUTRALITY

SOLAR PANELS | WINDMILLS | ENERGY FLOOR | BIOMASS STATIONS

FOOD

BEE HIVES | URBAN ORCHARDS | SOIL STATION | SPIRULINA FARM

CIRCULAR ECONOMY

COLLECTION BINS | STREET LIBRARY | PUBLIC ASSEMBLY SPACE | EXCHANGE MARKET

MOBILITY

PEDEASTRIAN PATH | CAR PARKING | CAR LANE | BIKE LANE

* Value for MOBILITY category is 0

ERASE

PROPOSAL

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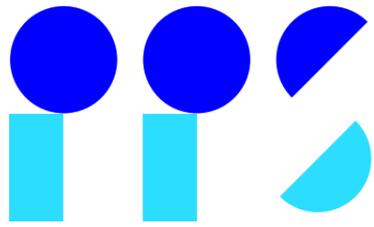
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