

State of the Art Catalogue

Collection of Best Practices on Public Space Initiatives



PUBLIC PLAY SPACE



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

Iaac

Institute for
advanced
architecture
of Catalonia

clac

Breda
University
OF APPLIED SCIENCES

PUBLIC PLAY SPACE INITIATIVES CATALOGUE
Collection of Best Practices

ISBN: 978-84-120885-3-3

Published in the framework of the project
Public Play Space, co-funded by the
Creative Europe Programme of the European
Union.

The views set out in this publication are those
of the authors and do not necessarily reflect the
official opinion of the European Union.

© 2020 Public Play Space.
Pictures by kind permission of the
photographers/holders of the picture rights.
All rights reserved.

Editors:
Areti Markoupolou
Marco Ingrassia
Chiara Farinea
Mathilde Marengo
Raquel Villores

Scientific Committee
Marco Ingrassia
Chiara Farinea
Cristian Rizzuti
Davide Leone
Nick van Apeldoorn
Igor Mayer
Zhan Goosen

With contributions by
Doris den Hamer
Quincy Quist
Rob Dekempeneer
Relin Buijs
Maxime Vissers

Design, settings, and lithography
Daniela Figueiroa
Nikol Kirova

Cover
Daniela Figueiroa

Coordination
Marco Ingrassia
Raquel Villores

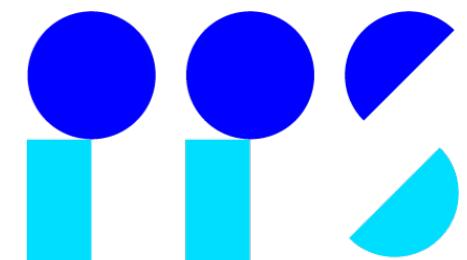
The publication is edited by the Institut
d'Arquitectura Avançada de Catalunya
(IAAC) and displays international practices
connected to Public Play Space and their
implementation in the fields of Architecture and
Design, Advanced Technologies and Gaming, and
Social Participation and Gamification strategies.

Institute for Advanced Architecture of Catalonia
Pujades 102 baixos, Poblenou
08005 Barcelona, Spain
www.iaac.net

Online-version of the Catalogue is available for
free at: <https://www.publicplayspace.eu/>
Printed in the European Union

State of the Art Catalogue

Collection of Best Practices on Public Space Initiatives



PUBLIC PLAY SPACE



Iaac
Institute for advanced
architecture
of Catalonia

clac

 **Breda**
University
OF APPLIED SCIENCES



More than 30 projects activating public space all over the world are presented in this Guide.

A voyage through nations and experiences that can design a network of innovative and inclusive public spaces.

- Back Story _ South africa
- Clean Games _ Russia
- Climate Games _ The Netherlands
- Collective Intelligence in City Design _United States
- Corporate Growth Game _The Netherlands
- Guilt _Italy
- Habla _Spain
- I am panel _Spain
- Kreyon city _ France
- L'appar(ten)enza inganna _Italy
- Le Fanu Play and Skate Park_Ireland
- Metrogame _Malaysia
- Online / on-site_ United States
- Placemaking facilitation game _ Bulgaria and Norway
- Playtime_Italy
- QurbanCraft_Italy
- Raiders of the lost water_Italy
- RE:CLAIM_Greece
- REDESIRE_The Netherlands
- Rethinking urban design in the digital era_Greece
- STAIN _ The Netherlands
- Superlupa _ Spain
- The civic Horse_UK
- The Great Palermo_Italy
- The innovation game_Brasil
- The Smart City Hospitality_The Netherlands
- The Urban Future_The Netherlands
- Un Sacco di Palermo_Italy
- Urban Living lab playground_Belgium
- Urban Poem_Italy
- Veus_Spain
- Videogame urbanism_UK

Index

08	Foreword	38	L'appar(ten)enza inganna Tamalacà srl + "Festival for Accessible Cities" (Italy) / 2018	72	Veus Williams + Alsina (Spain) / 2018	102	Un Sacco di Palermo Mandalari (Italy) / 2018
10	Glossary			76	Videogame urbanism YOU + PEA (UK) / 2016	104	Urban Living lab playground Zalokar et al. (Belgium) / 2018
1. Environmental Awareness							
16	Clean Games Loffe + Ivanov (Russia) / 2015	40	Le Fanu Play and Skate Park Relational Urbanism + Levins + Barry + MCELLIGOT (Ireland) / 2020	78	Virtual Environments as a Technological Interface Artopoulos (Cyprus)	106	Urban Poem Talu et al. (Italy) / 2018
18	Climate Games Tygron (The Netherlands) / 2012	42	Placemaking facilitation game Bondov + Kesarovski + In Formal Association (Bulgaria and Norway) / 2019	84	Back Story Villiers et al. (South Africa) / 2016	110	Virtual Museum Dr. Rashnoodi + Prof Dr. Gisbergen (Mexico, The Netherlands) / 2019
22	MUV Palermo urban solutions Hub (EU HORIZON) / 2020	46	Playtime Moro et al. (Italy) / 2019	86	Guilt Tamalacà srl + Municipality of Sassari + Abinsula + InnovYou Srl (Italy) / 2016	114	Corporate Growth Game Hendriksen (The Netherlands) / 2017
24	Raiders of the lost water Alessandro Gurrieri (Italy) / 2016	48	QurbanCraft Blečić et al. (Italy) / 2020	90	Hello Lamp Post Hello Lamp Post (global) / 2018	116	Kreyon city Monechi et al. (France) / 2018
26	The Smart City Hospitality Jessika Weber (The Netherlands)	52	RE:CLAIM Urban Hackers (Greece) / 2020	92	My Street ABC Kjell Van Ginkel / 2020	118	Metrogame MSLab + Metrohub (Malaysia) / 2018
2. Collective Design							
30	Collective Intelligence in City Design Rong + Yang (United States) / 2020	60	Rethinking urban design in the digital era Kyriakopoulou (Greece) / 2019	94	Superlupa Aldah + Jiale (Spain) / 2018	120	Online / on-site Cyrus Peñarroyo (United States) / 2014
32	Habla Rodriguez Vara + Petraityte (Spain) / 2018	64	STAIN Royal Haskoning DHV (The Netherlands) / 2020	98	The Great Palermo We Are Muesli + CLAC (Italy) / 2015	122	The Urban Future Hendriksen (The Netherlands) / 2017
34	I am panel OCCS+CIVICWIS (Spain) / 2019	68	The civic Horse STUDIO CHI (UK) / 2020	100	The innovation game Celine Camargo-Borges (Brasil)		
3. Storytelling & Learning							
4. Decision Making							



Foreword

Public Play Space has the objective of promoting innovative and creative practices for the co-design of inclusive, cohesive, and sustainable public spaces, through the use of games and digital technologies.

Participation of citizens in the design of the public space is recognized as fundamental to build inclusive, cohesive and sustainable public space. As local governments grow more and more interested in civic participation, it becomes important to explore available methodologies addressing challenges related with participatory processes. Games have been proposed since the 1960s as means to facilitate participatory processes by enabling cooperative environments to shape and support citizens' interaction. The change led by Information and Communication technologies opens the debate on how advanced technologies, from video games to Virtual and Augmented Reality can help to open the process of co-creation to new audiences, enhancing citizen participation, both with respect to the design and space usage.

The Public Play Space project is 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. This Collection of Best Practices 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 and digital technologies. The projects emerged 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, an open source online wiki platform, open to the contribution of more researchers, towards the development of a deeper knowledge on emerging methodologies and experiences innovative technologies and games for public space co-design.

Glossary

The projects presented in this catalogue are best practices innovative and creative solutions for the co-design of inclusive, cohesive and sustainable public spaces, through the use of games and digital technologies. 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:

1. Environmental Awareness

Focussing on the implications and understanding of environmental Impact on our day to day engagement with public space;

2. Collective Design

Fostering collective creativity to identify challenges in the use of public space and respond to these through citizen engagement;

3. Storytelling & 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;

4. Decision Making

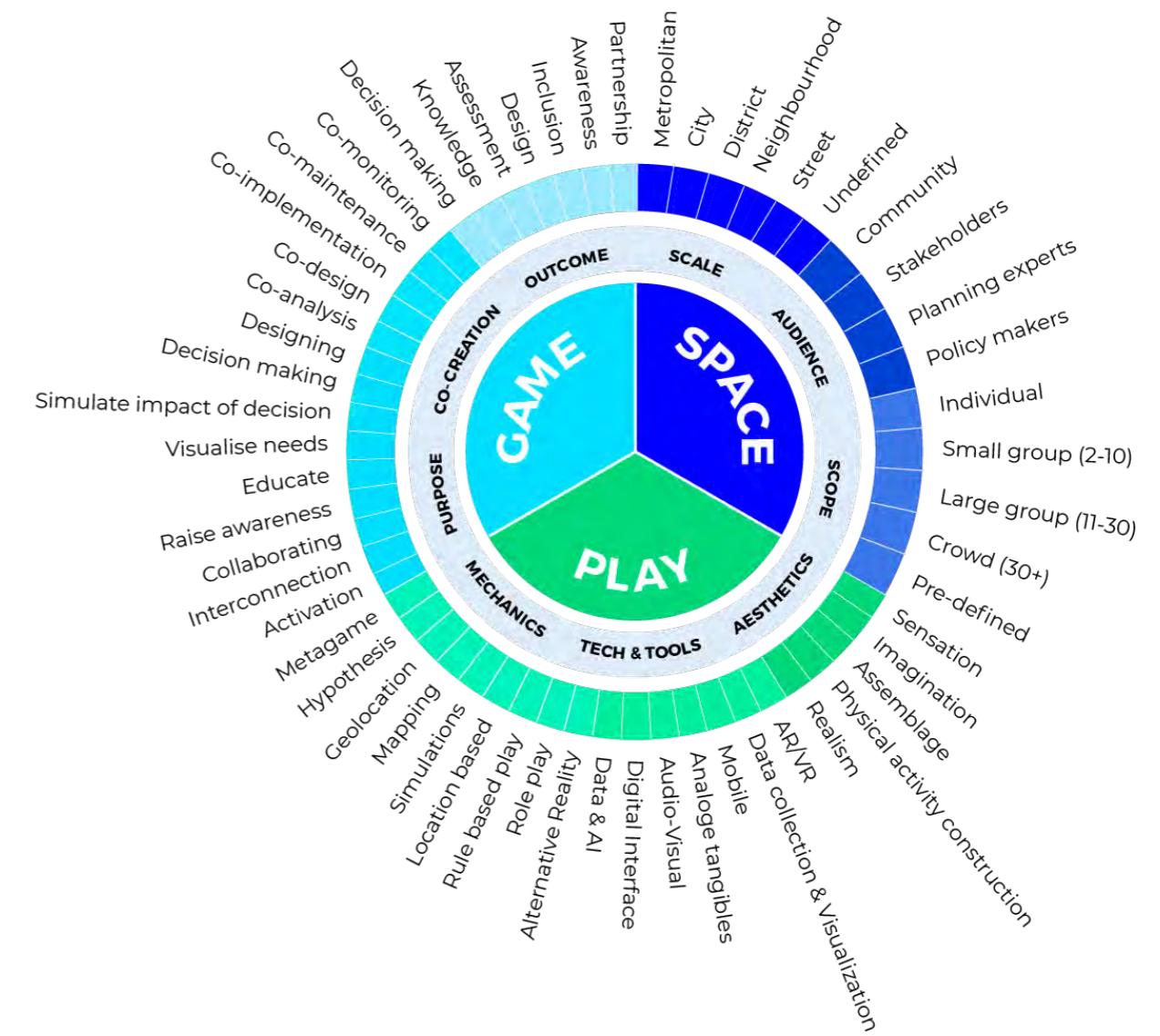
Prioritising the urgency of concerns related to public space and facilitating the actuation of a response to these.

Project Categories

The 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 will enable 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 **Game**, **Play** and **Space**.



GAME Represents the project's main purpose.
Play.

PLAY Represents the spatial scale in which the project is executed and its audience.

SPACE 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**
- Interconnection**
- Collaborating**
- Raise awareness**
- Educate**
- Visualise needs**
- Simulate impact of decisions**
- Decision making**
- Designing**

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**
- Co-design**
- Co-implementation**
- Co-maintenance**
- Co-monitoring**

OUTCOME: The projects results.

- Decision making**
- Knowledge**
- Assessment**
- Design**
- Inclusion**
- Awareness**
- Partnership**



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**
- Role play**
- Rule based play**
- Location based**
- Simulations**
- Mapping**
- Geolocation**



Hypothesis

Metagame

- A hypothesis is a proposed outcome made up from limited knowledge and facts.
- A metagame is a game in which the action done by the player surpass 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).
- Project collects Data on the users' behaviour and experience and can be visualised thanks to several techniques.



Data collection and visualization

- The project makes use of a mobile device such as a smartphone or a Tablet.
- The project makes use of non-digital tools.



Analoge tangibles

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



Audio-visual

- Project makes use of digital video or audio devices through which user acts in the game and/or interact with other users.
- Project collects Data on the user behaviour and process it thanks to Artificial Intelligence tools to interact with the users' behaviour.



Digital interface

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



Data and Artificial Intelligence



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



City



District



Neighbourhood



Street



Undefined

AUDIENCE: The assembled spectators of the project.



Community

- The condition of sharing or having certain attitudes and interests in common.
- An individual, business etc. with an interest or concern in the project.



Stakeholders

- A very knowledgeable about or skilful in the project or particular sub focus area of the project concerning urban planning.
- An individual responsible for, or involved in formulating policies that affect the project.



Planning experts

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



Small group (2-10)



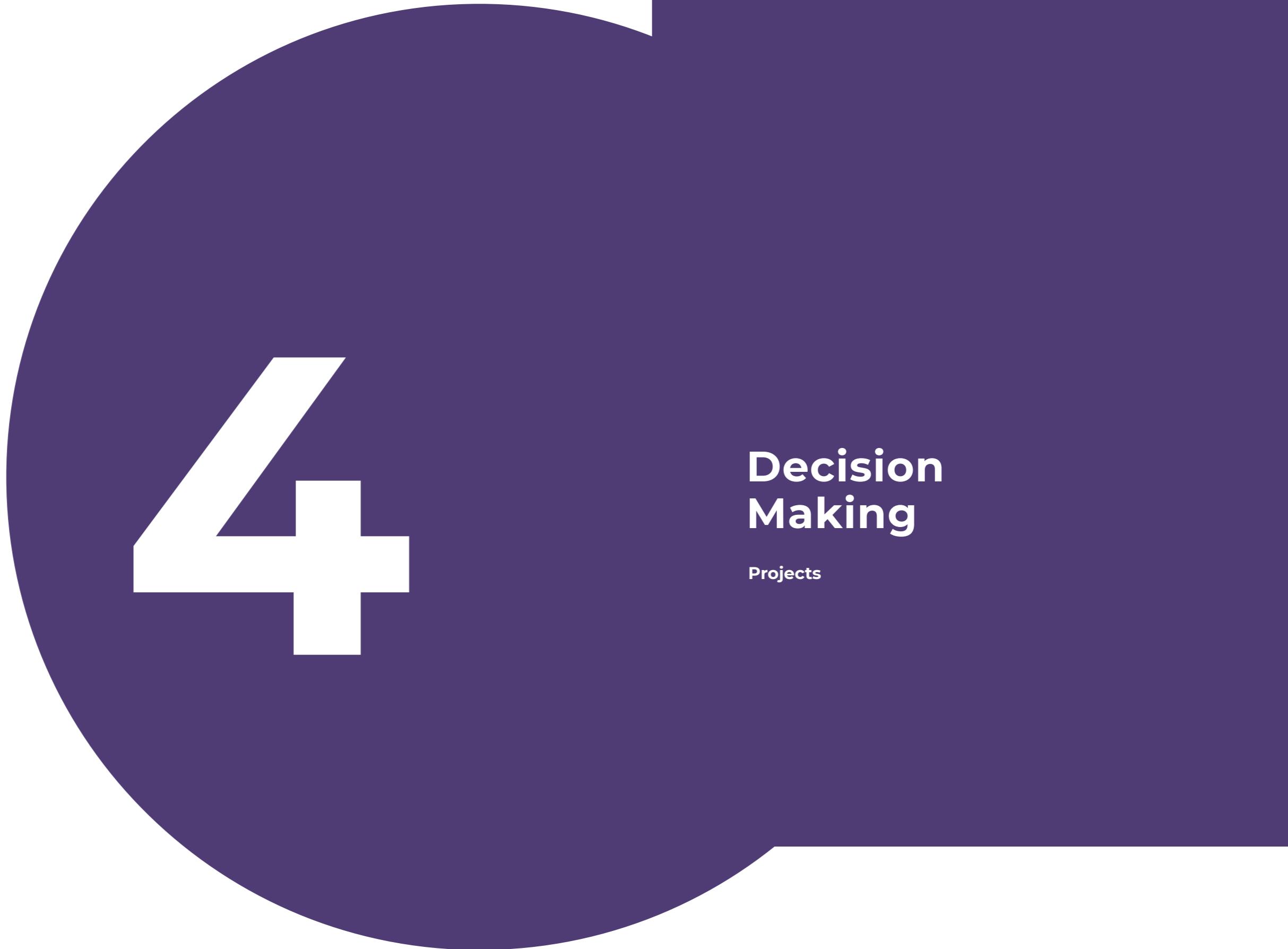
Larger group (11-30)

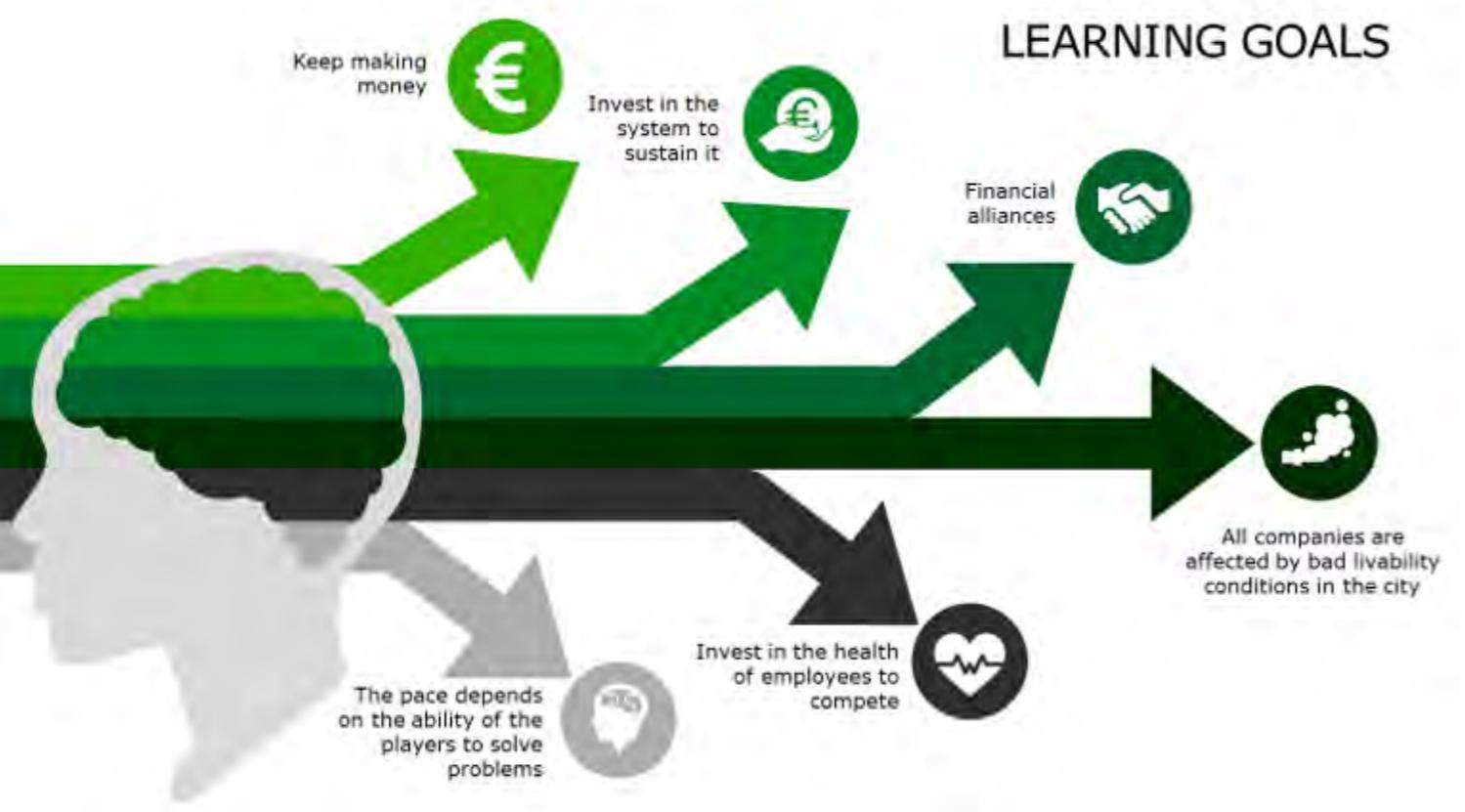


Crowd (30+)



Pre-defined





THE IDEA BEHIND: The Corporate Growth Game

- 01 **Big business boost income** (€)
 - 02 **But often, decrease livability** (city)
 - 03 **Use of the commons justifies private investment** (€)
 - 04 **But, public-private-partnerships are often mildly successful** (scales)
- Serious games let players experience complex issues and encourages ethical and emotional thinking over purely rational thinking often benefiting the public good.

Corporate growth game

Author: Wieland Hendriksen

Location/Year: Breda, The Netherlands, 2017

In order to optimize and improve the accessibility of Breda's city center, the city wanted to evaluate certain redesign options for a specific corridor street, involving citizens throughout the process, communicating in the most visual way possible and creating an experience for all stakeholders. By building the street and the scenario's in VR, so that all stakeholders and citizens could experience the scenarios in VR while physically cycling on a simulator, we have reduced the projecttime to get to a well accepted decision with 30%.





Kreyon city

Author: Bernardo Monechi + Enrico Ubaldi + Vittorio Loreto (Sony CSL)
Location/Year: Paris, France, 2018

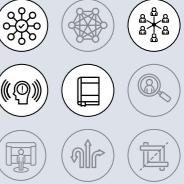
Kreyon City aims at engaging the general public into a simplified simulation of decision making. The purpose of Kreyon City is twofold: from one side increase the awareness of participants on the complexity of urban systems, and from the other gathering data on their learning process about this complexity. Individuals are, in fact playing with a Machine Learning generative model trained on real data. However, the physical bricks they have to use to develop the city mediates this interaction. Depth sensors and RGB cameras record how the city is built and uses this as the input of the generative model. In this way, a specific configuration will correspond to a specific output in terms of urban indicators, that are displayed on a feedback monitor. Such monitor also displays missions and challenges related to the city that players have to solve by modifying the city itself.

Kreyon City has been developed both in single-player and collective versions. The single-player version allows single individuals to build their small city. In contrast, in the collective versions, many individuals have to coordinate to build the same large city, solving the problems together.

Kreyon City is a tool for studying how individuals interact with complex problems. The software managing the depth sensors and the feedback display allows gathering data about individual decisions, wherever the installation is.

GAME

PURPOSE



CO-CREATION



OUTCOME



PLAY

MECHANICS



TECH & TOOLS



AESTETICS



SPACE

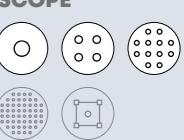
SCALE

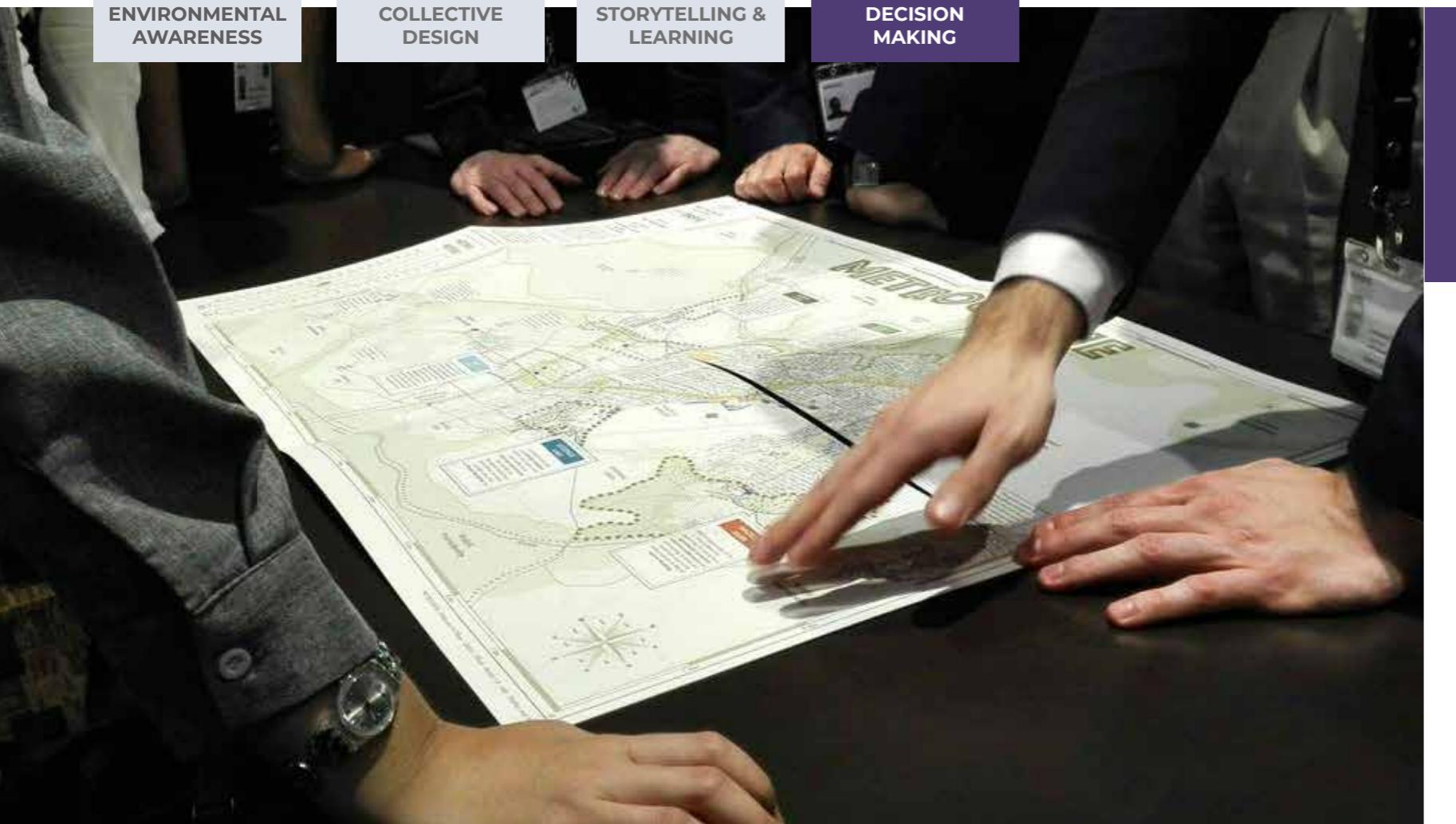


AUDIENCE



SCOPE





Metrogame

Author: MSLab + Metrohub

Location/Year: Kuala Lumpur, Malaysia, 2018

Premise: the role of metropolitan systems in addressing and fulfilling SDGs is crucial. Limited are the tools to directly link strategic physical planning and design actions with the sustainable global agendas.

Objective: the METROGAME is based on preliminary work made by experts as facilitators providing scenarios of negotiation to be improved, modified, implemented by different actors through decision making processes the game will simulate these decision making processes in reduced complexity showing the effects on SDGs and other urban indicators in terms of expected results. The game is based on a preliminary mapping and design phase on the focus area delivering a strategic framework that should include and recombine existing and potential public/collective/common assets as enduring and viable metropolitan and urban patterns contributing to set a possible robust structure of sustainable development. A metropolitan framework of civic robustness is a strategic, inter-scalar, multi-actor, spatial platform of negotiation for the coproduction of public good.

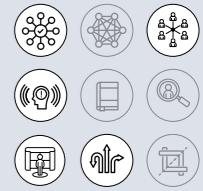
The METROGAME allows to interact with the metropolitan strategic framework and its patterns by improving, modifying, implementing them according to a personal perspective, with the aim of reaching the highest balance in the proposed indicators of sustainable development.

Each group will have a game set including the game board and: 9 Roles Cards 12 Action Cards 2 Scoring Tokens. At the beginning of the game role cards will be distributed. The mayor will be elected and he will be the active player, while the others will play the parts of the actors suggested by the roles card, sustaining the suggested positions.

In Wazico some projects to drive future urbanization have already been started, as the national government has decided to invest in the city and financial resources are available due to the progressive foreign private investments, but various urgent issues still require the attention of decision makers. The goal of the game is to set a sustainable scenario for Wazico in which the Local Goals on urgent needs and the Global Goals related to SDGs are balanced.

GAME

PURPOSE



CO-CREATION



OUTCOME



PLAY

MECHANICS



TECH & TOOLS

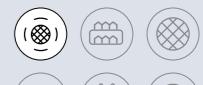


AESTETICS



SPACE

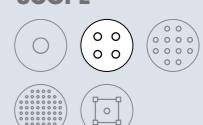
SCALE



AUDIENCE



SCOPE





Online / On-site

Author: Cyrus Peñarroyo

Location/Year: Detroit, United States, 2014

Online/On-site combines publicly available spatial data with information gathered from interviews of local high school students in order to map detailed geographies of digital access and exclusion across Detroit. Despite recent development, Detroit has one of the lowest rates of Internet connectivity in the United States, excluding thousands of people from the opportunities for education, employment, and belonging afforded to those with the ability to get online. This condition is exacerbated by the economic precarity of many Detroiters, the high costs of individual residentially-based internet access, and uneven broadband service provision throughout Detroit's neighborhoods. Many of those affected are school-aged youths that need the Internet to complete their homework, submit after-school job applications, or simply socialize with their classmates.

This project attempts to “game the system” through strategic collaboration and identifies latent opportunities to reimagine the city’s disinvested neighborhoods in ways that enable public assembly and digital interaction, proposing urban design strategies that are rich with alternative ways to connect physically and virtually. The project understands the rules and parameters behind the creation of community mesh networks and mines representational techniques from social media apps and digital interfaces in order to communicate that information to a wider public. Using a combination of maps, diagrams, and renderings, Online/On-site hopes to redefine what digital access and equity could look like in the urban environment.

GAME



PLAY



SPACE





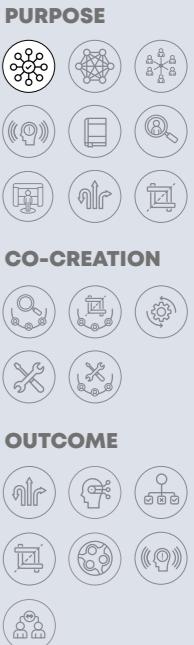
The Urban Future

Author: Wieland Hendriksen

Location/Year: Breda, The Netherlands, 2017

In order to optimize and improve the accessibility of Breda's city center, the city wanted to evaluate certain redesign options for a specific corridor street, involving citizens throughout the process, communicating in the most visual way possible and creating an experience for all stakeholders. By building the street and the scenario's in VR, so that all stakeholders and citizens could experience the scenarios in VR while physically cycling on a simulator, we have reduced the projecttime to get to a well accepted decision with 30%.

GAME

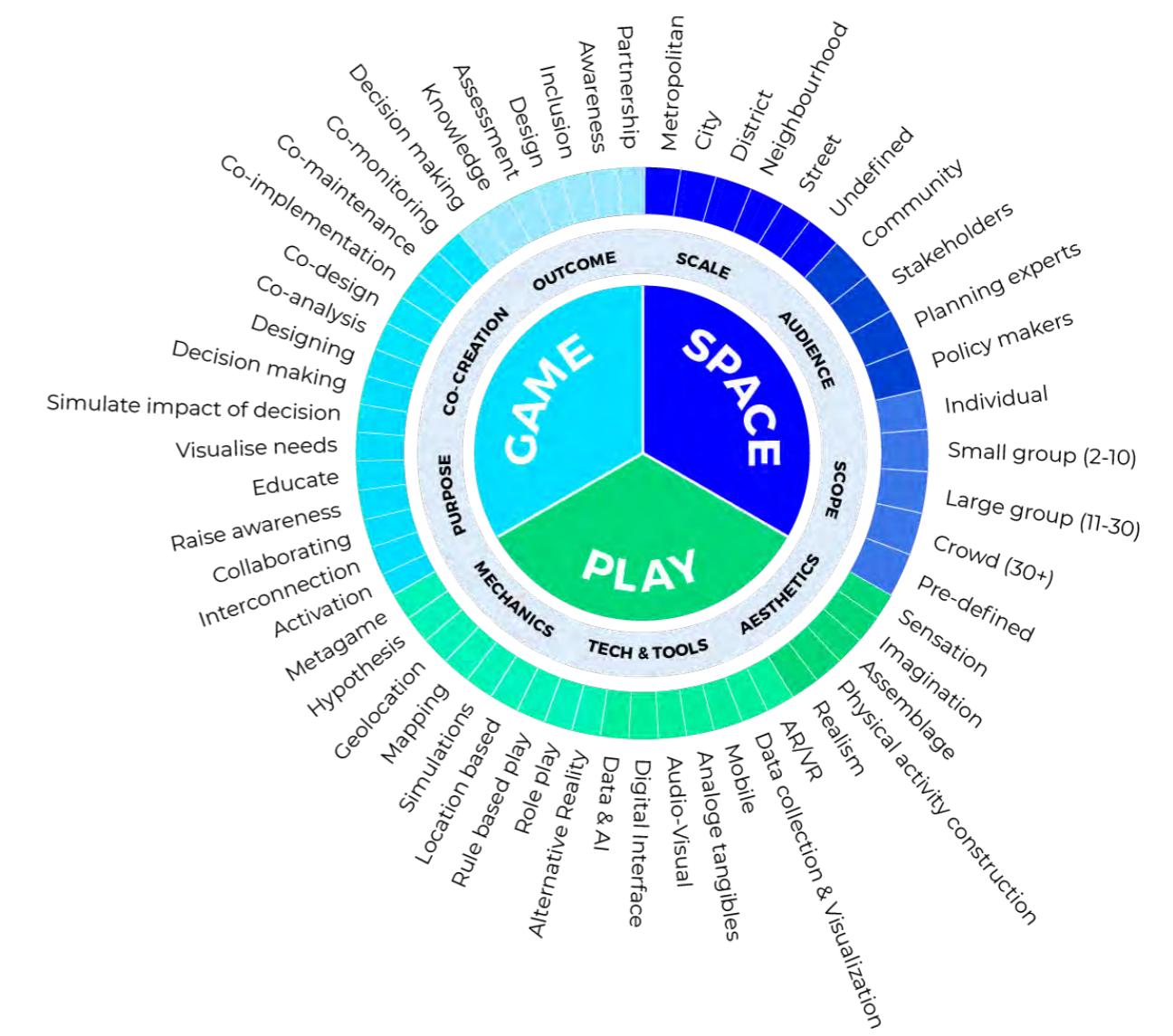


PLAY



SPACE





PUBLIC PLAY SPACE

PPS Project Partners

Institute for Advanced Architecture of Catalonia (IAAC).
www.iaac.net

Breda University of Applied Sciences (BAUS)
www.buas.nl/en

CLAC
www.clac-lab.org

More information
www.publicplayspace.eu

Contact
info@publicplayspace.eu

GAME

PURPOSE

-  Activation
-  Interconnection
-  Collaborating
-  Raise awareness
-  Educate
-  Visualise needs
-  Simulate impact of decisions
-  Decision making
-  Designing

CO-CREATION

-  Co-analysis
-  Co-design
-  Co-implementation
-  Co-maintenance
-  Co-monitoring

OUTCOME

-  Decision making
-  Knowledge
-  Assessment
-  Design
-  Inclusion
-  Awareness
-  Partnership

TECHNOLOGY AND TOOLS

-  AR/VR
-  Data collection and visualization
-  Mobile
-  Analogue tangibles
-  Audio-visual
-  Digital interface
-  Data and Artificial Intelligence

AESTETICS

-  Sensation
-  Imagination
-  Assemblage
-  Physical activity construction
-  Realism

SPACE

-  Metropolitan
-  City
-  District
-  Neighbourhood
-  Street
-  Undefined

AUDIENCE

-  Community
-  Stakeholders
-  Planning experts
-  Policy makers

SCOPE

-  Individual (1)
-  Small group (2-10)
-  Larger group (11-30)
-  Crowd (30+)
-  Pre-defined

PLAY

MECHANICS

-  Alternative reality
-  Role play
-  Rule based play
-  Location based
-  Simulations
-  Mapping
-  Geolocation
-  Hypothesis
-  Metagame

