Games for Cities Training School Report
COST TU 1306 Cyberparks

Organized by:
Amsterdam University of Applied Sciences; Lectorate of Play & Civic Media
Play the City Foundation
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Play the City

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EUROPEAN COOPERATION IN SCIENCE AND TECHNOLOGY

Theme

In the Games for Cities training school, participants will explore the design of playful installations and urban games in public spaces as a means of 'citizen empowerment'. In particular, participants will investigate how play and games can be used to engage and activate citizens around the advent of a 'circular economy', with a focus on the flows of food and waste.

The use of games has by now become an established practice in participatory design, co-design and similar approaches. "City Games" are employed to engage a broad variety of stakeholders in the process of city making. Examples include games that enable co-design sessions for future neighborhood developments, playful tools for collaborative ideation, mapping exercises, up to (interactive) media installations that provoke discussions about the future of the city. As such, they aim to open up the top-down professionally driven process of urban planning and the broader debate about the future of the city to citizens and other stakeholders. A particular subset of these games takes place in urban public spaces.

In this training school, participants will explore the affordances of city games in urban public space and deploy these to the theme of the circular economy, with a focus on the flows of food and waste. How can urban games in public space activate citizens around this theme?

Differently from "linear economy", characterized by a 'take-make-dispose' model, a circular approach aims at maintaining the value of products as long as possible, reducing waste, and keeping the resources locally when a product has reached the end of its life, to be used again and again to create further value. The flows of food and waste in and out of the city are major urban issues that severely impact natural resources. They are "wicked problems" that cannot be solved with a simple, top-down fix, but require systemic solutions that involve citizens in rethinking public spaces, the social activities happening there, and the cultural values that are tied to them. Play and Games can play a role in opening up discussions about these issues, ideate alternative futures, or engage and inform publics with and about food and waste flows in the city.

In a five days' programme, participants will work in small interdisciplinary teams towards the design of a prototype for a city game that is to take place in the urban public space in Amsterdam. The programme includes lectures from and discussions with city game designers and leading researchers in this field. Participants will also be encouraged to share and exchange their own knowledge and experiences.

Objectives

Participants will explore the use and design of games and play as activators for public spaces. They will do this through lectures, discussions, studio sessions,

playing city games themselves, and a hands on approach in which they collaboratively design a prototype for an urban game in small teams.

Participants will make a connection between playful dynamics in public spaces and make those productive in relation to the theme of the circular economy.

Participants will learn from both experts in the field as well as from each other.

Expected outputs

In a five days' programme, participants will work in small interdisciplinary teams towards the design of a prototype for a city game that is to take place in the urban public space in Amsterdam. These games will be related to 'design challenges' being presented by local stakeholders. The project proposals will be presented and discussed in a final session.

Participants

Our call for participation resulted in about 120 applications. The organization committee selected 20 candidates. 1 candidate canceled at the last minute, 19 participants completed the full programme.

Design Challenges

The following are the five design challenges were addressed during the training school.

1. Prospecting the urban mines of Amsterdam – AMS Institute

«Amsterdam is an urban mine. Amsterdam is a wealth of metals. Amsterdam is tons of steel, copper, aluminum, gold. Steel in high-rise buildings, copper in the cables, aluminum in window-frames, gold in telephones. Tons. If you need metals, go prospecting Amsterdam.» The AMS PUMA research started like this, 9 months ago, with a focus on the built environment of the City of Amsterdam.

Obviously, the metals are in use and not free to process yet. It will take time before you can get them out. But in the mining industry this is business as usual – getting any mine running takes decades. Traditionally, mines are underground. There is iron, copper and aluminum in the earth. Ore concentrations are going down, and it takes ever more energy to get the metals out. Worldwide, 7-8% of all energy consumption is now used to producing metals. It takes far less energy to take the metals from urban mines. Still, we should ask: can it be done? Is it worthwhile?

The goal of AMS PUMA is to kickstart an urban mining strategy. The project is twofold, on the one hand a research team looking specifically at housing in Amsterdam, and a group of students examining data from the rest of the city. You will have access to the students' reports and dataset about the potential reuse of mineral resources in the city. You will also have access to a geological analysis and a data analysis, an Urban Mining Strategy (see attached article), as well as four future scenarios outlined on two axes (Global vs. Local; Market vs. Government).

Your task is to develop a playful urban intervention that may be used to 1) explore and flesh out one or more "future scenarios" set in Amsterdam in 2050, dealing with the reuse of metals and minerals that are already present within the city, 2) prompt citizens to actively contribute to the scenario-building exercise, 3) activate and inform citizens on how to reuse/recycle/upcycle everyday appliances and goods, with the objective of reducing the waste of metals (e.g. aluminum, copper…). Imagine: how does the city looks like if we mine from it? Who will take the lead in these efforts? What kind of new businesses will be created? How would the economy change if one could "finance" a home renovation with some materials that would be remove anyway?

2. Noordoogst: Composting and Biodigesting as a Community – HvA & Metabolic

Main goal of the Noordoogst project is developing a community organic waste scheme. A system will be created in which all organic waste and byproducts - excluding grey water and sewage - are reused or recycled to use the maximum value of resources and minimise external impacts. Although centred on Noordoogst, the project will reach beyond this to include the surrounding community where

appropriate. This project will be an essential feature of Noordoogst, which seeks to close as many resource loops as possible, and acts as an exemplar for practices of sustainable, social living. Specifically, the project will address flows of kitchen and garden waste, office organic waste such as paper, and other organic waste streams such as wood, disposable cutlery and plates from events, and so on.

The Noordoogst community currently consists of restaurant STROOP, beer brewery 'De Vriendschap', bakery 'D&P', Indonesian take-away restaurant 'Toko Tante Lies', child's day care 'Buitenkans', beekeeper 'BeeLease', a hostel, a small group of residences on-site and Metabolic, a private consultancy company based on the site . Offices, living and food production/processing spaces, workshops, greenhouses, and gardens are situate in the area. Importantly, the site also features a functioning farm and food forest run by Metabolic, which is likely to be a primary recipient of the recycled nutrients. Much of the outdoor space is managed mutually for the benefit of the community, and some areas are managed by individuals. There are also residential areas adjacent to the site.

Over the coming 10 years Metabolic aims to create a unique example of a sustainable, 'circular' community and food production system. Managing and eliminating valueless outputs ("waste") and deriving maximum value from organic resources is an essential component of this circularity. Current organic waste streams can be reused and "upcycled" in highly beneficial ways, while simultaneously contributing to the reduction of external inputs.

Your task is to design a playful urban intervention that embeds itself in the Noordoogst and smartly generates unexpected partnerships and loops. Creating set of values not only material sense of recycling or upcycling organic resources based on zero-waste, but also value in visible, physical and social layers. Your intervention should address public spaces, should clearly aim at improving quality of life, and should be as inclusive as possible (allowing all sorts of citizens to participate).

3. Urban water in a changing climate – Utrecht University

In the near future, we can expect hotter summers alternating heat, drought and intense rain showers, as well as more rain during autumn and winter. Climate change is expected to impact cities in different ways, many of which are related to the management of water and liquid waste, and all this is likely to affect the availability of water for consumption, irrigation, and commercial uses, as well as the rise of the sea level, and the increased risk of floods. A circular urban economy may help addressing some of these issues. For example, "greywater" from sinks, tubs and washing machines may – with some cautions – be used for watering urban gardens. Excess rainwater may be stored for later use in tanks, used for "raingardens", and even to brew craft beer. There also are technological solutions to extract phosphorous, useful for industry and agriculture, from liquid waste.

In this scenario, municipalities aim at making their citizens more engaged with urban water management. But, in doing this, "framing" issues might emerge. These

strongly colour what are perceived as 'valid', 'sensible' policy options and interventions. Examples of different frames affecting the discussion may be:

- What is the problem, really?
- Whose problem is it? (e.g. who is responsible for causing, exacerbating and solving it; who should have a say, and in which way, in making decisions about it?)
- What are the most important causes of this problem?
- What important values are being threatened?
- What should be done about it, and by whom?

For example, most Dutch tend to see water management (from canals, to rainwater, irrigation, drinking water, and liquid waste) as a responsibility of the national government. There is both space and need for a complementary approach that activates citizens towards bottom-up initiatives in water management.
Your task is to design a playful urban intervention that makes explicit how citizens frame some aspects of water management, and challenge their framing with the ultimate goal of activating them towards more circular practices. For example, is rainwater a threat or a resource? And for whom? How to reframe thunderstorms, flooding and similar phenomena so that they're seen as everyone's problems (and opportunities!). Can a city-game build and support a bottom-up community with a stake in giving new values to water?

4. Air quality – from awareness to a framework for action! – Waag society
Air pollution is one the most important problems jeopardizing a healthy life in cities all over the world, with harmful substances (Carbon Monoxide, Nitrogen Dioxide, among others) produced by all sorts of engines, from cars, to heating, airplanes, coal power plants... Indeed, living in polluted places can shorten an average lifespan by months or even years.

Some environmentally-friendly themes have entered the political, cultural, and commercial discourses. The concept of a "Circular Economy" is one of those. Differently from "linear economy", characterized by a 'take-make-dispose' model, a circular approach aims at maintaining the value of products as long as possible, reducing waste, and keeping the resources locally when a product has reached the end of its life, to be used again and again to create further value. Clearly, most combustion engines don't fit well in a circular model, as most fuels aren't sourced locally and emissions are difficult to reuse for further purposes.

Still, some (at least partially) circular solutions exist: from biofuels created from waste (vegetable oil), to reusing excess heat from industries to warm greenhouses. Other approaches may include offsetting CO2 with parks and urban farms. Or reducing the damage by optimizing the use of cars and vans with more efficient transportation and logistics.

On the other hand, we now have affordable sensing technologies that are relatively cheap, easy to deploy, and that can gather an abundance of environmental data. Indeed, technology to measure the environment is getting better, cheaper and more available to citizens. People can measure the air quality in their own street with an accuracy that is getting close to official measurement stations. This has led to a greater awareness of environmental problems that cities are facing worldwide. The silent and invisible problem of air quality becomes visible to citizens. But how to turn this growing awareness into concrete, bottom-up action?

Your task is to design a playful urban intervention that leverages a variety of environmental sensors to concretely activate citizens to take action in relation to air quality. Simply raising awareness is just not enough, as this urgent issue requires immediate action. The interaction should have visible, social, and tangible components, and could (for example) include all sorts of creative data visualizations as part of the gameplay. Your intervention should address public spaces, should clearly aim at improving quality of life, and should be as inclusive as possible (allowing all sorts of citizens to participate).

5. Plastic Upcycling & Local Currencies - WASTEDlab

Plastic is used for countless purposes in our daily lives, yet it is a limited resource. Furthermore, plastic waste often ends up in the ocean, where a so-called Plastic Soup threatens sea life, and ultimately affects humans as well. A crucial decision must be made about how to address this global issue.

Increasingly, new recycled materials are being prototyped. These materials are a great alternative to the use of virgin plastic and they provide a bright look into the future. However, a significant percentage of the global urban population is composed of what we define as plastic-a-holics: people who dispose plastic products more than three times a day without being conscious of the consequences. Taking into account this global problem and its centrality in developed urban areas, we sought a process that could be activated at a manageable scale.

By thinking about how to use existing resources to not only create new material, but also collaboratively co-create with communities in need of a conscious plastic culture, WASTEDlabs researched, designed and implemented the WASTED Reward System. Citizens in Amsterdam Noord may receive a Start-up Kit with special bags for plastic collection. When they are full, they can be brought to the collection depot, or they're picked up by volunteers. In exchange for their plastic, people receive "WASTED Coins" as a reward, a local currency with real value which can be used in a number of local businesses. This system is right now used by 700 families in Amsterdam Noord (www.wastedlab.nl).

What WASTED is doing with plastic coins in exchange for recyclables is only one possibility. Your task is to create a playful urban intervention about the value of plastic, and you might want to involve the infrastructure already existing for WASTED (coins, rewards, volunteers, plastic-melting facilities). It should be a highly

social and local activity: waste management and recycling should be pleasant, even "cool", and the benefits should be clearly visible at the scale of a neighborhood. Players should be able to experience what happens to the plastic they collect, and/or to see the benefits of removing plastic from the general waste. In addition to that, the city-game should actively promote a "circular economy" involving a variety of local stakeholders engaged in a local "cradle-to-cradle" cycle, where one's waste becomes a resource for someone else.

Report

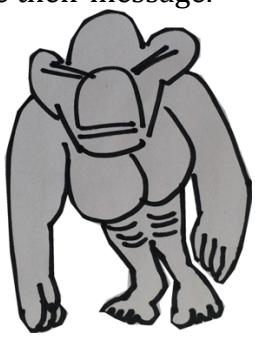
The COST Cyberparks Training School was organized at the Hogeschool van Amsterdam from the 10th to the14th of October. During this five day period, students, game designers, architects and urban planners from all over Europe came together to design games particularly suited for a set of five existing issues or projects, introduced by local entrepreneurs from Amsterdam and Utrecht. The specific focus of this Game Jam was to create city-games that can be played in public urban areas as a direct means of engaging local citizens on the circular use of organic waste materials.

The participants were organized in five groups that each had to translate real local urban issues brought in by a local stakeholder (see above) into a gaming format. This report will first briefly describe the outcomes of the five groups, and then reflect on the question of *How can urban issues be translated into games for public spaces?*

Final Projects

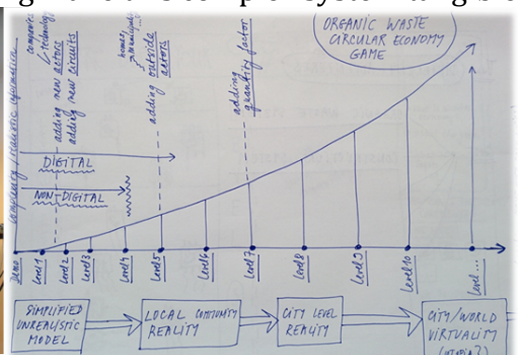
1. Prospecting the urban mines of Amsterdam – AMS Institute
Game title: Metal Kong
Team: Mauro Salvador, Max Willis, Moozhan Shakeri

The goal of the Urban Mining game was to raise awareness about the resources that can be recycled in buildings. The designers made an Augmented Reality mobile game with players walking past buildings. MetalKong – a huge ape – is on a rampage and metal is needed to build a cage. Players have to locate buildings that hold resources and grade them on a social use scale. After finding them all they can decide to recycle them, thus destroying the building and adding to the cage. Or they retain the building for social reasons but thus risking MetalKong's release. This game implicitly also gathers data about citizen's reaction to urban mining. It thus uses a second step to drive home their message.



2. Noordoogst: Composting and Biodigesting as a Community – HvA & Metabolic
Game title: Food Loop
Team: Erina Filipovska, Karmen Tomažič, Barbara Herucová, Sarah-Kristin Thiel

This group had to convey the complexity of a circular economy in the NoordOogst area. They created a puzzle game wherein someone's waste is someone else's resource to be played on location and in an app. Connecting the right waste product to the recycler will complete levels. Each level is a more complex version of the circular economy, and therewith closer to reality. The physical formation of the loops and the incremental learning make this complex system tangible.



3. Urban water in a changing climate – Utrecht University
Game title: Contrainer
Team: Maria Saridaki, Eszter Juhasz-Nagy , Tara Kenny, Olina Terzi

The water team had as goal to raise awareness of citizen's responsibility for considerate water use. They relied on a physical object in the environment and experimentation to convey the message. They made a playful rain collector. Depending on the interaction with a series of levers and a swing, the water could either overflow (no action), drain (individual action), or water some flowers (collaborative action). The installation relies on facilitating debate and procedural awareness.

4. Air quality – from awareness to a framework for action! – Waag society
Game title: Carzilla
Team: Steve Cassar, Mark Mushiva, Francesco Bagni, Paul Schmidt

The Air Quality team designed a game around the material affordances of the space. On a polluted crossing bikers and car drivers compete for the safety of the city. Carzilla is forcing car drivers to pollute the city. As the bikers approach the traffic light, their bike lane alerts them of the imminent choice: do they take a stand against air pollution (group left), or don't they (group right). Opposite of the light is a display showing Carzilla's health. Every car passing will power him up. Every biker on the left will whittle him down. Making use of the shared materiality, this game creates an aware community in a very short time.


5. Plastic Upcycling & Local Currencies – WASTEDlab
Game title: Funplastic
Team: Joatan Preis Dutra, Scott Gaule, Petra Marguc, Nela Milic

The plastic recycling team had to start from an existing project that already had a gamified infrastructure. The challenge for their translation then came from finding a dimension of that infrastructure which might benefit from games. Their game, Funplastic, had to bring the result of the existing recycling back into the community. Through an app players can collect coins by gathering plastic waste. These coins can be spent in a virtual shared marketplace to purchase products made from the collected plastic that serve communal use. A mission system and a story line will draw players in and keep them motivated. These events are calls to action while the app is the new impetus for the existing projects


Designing Games for Urban Issues – Key Considerations

Every group set out to tackle their problem in a different manner. The following actions and considerations are therefore not linear but most of them were visited by all of the teams.

Problem Oriented Design

Whereas for many game designers "a large part of [their] role is to keep [their] concentration focused on the player experience" (Fullerton 2008, 2), games for cities are translations of urban issues and thus spring from a conception of the problem. All of the teams started with an interrogation of the local entrepreneur to determine what exactly is the problem they want to see addressed. Sometimes the demands of the contractor were specific – raising awareness about urban mining for instance – but at other times it was more exploratory, such as looking for ways to use bountiful data on air quality.

The designers first approached the issue as a problem-solving project: they went looking for the underlying problem. The plastic recycling issue, which had as larger problem that the scope and reach needed an impetus, was boiled down to the absence of visualization of the recycling result. This provided a focus point for the designers and determined their scope. Like a project manager, designers focused on the particular dimensions of the problems and only then would they see how games could be designed for this.

Location Based Gaming

Since games for cities deal with, well, cities and in this training school their public spaces, they are linked to the space they will be played in. For each group, it was at one point pertinent to actually determine and visit the setting of their gamified solution. This site-specificity is important for games for cities in two different aspects:

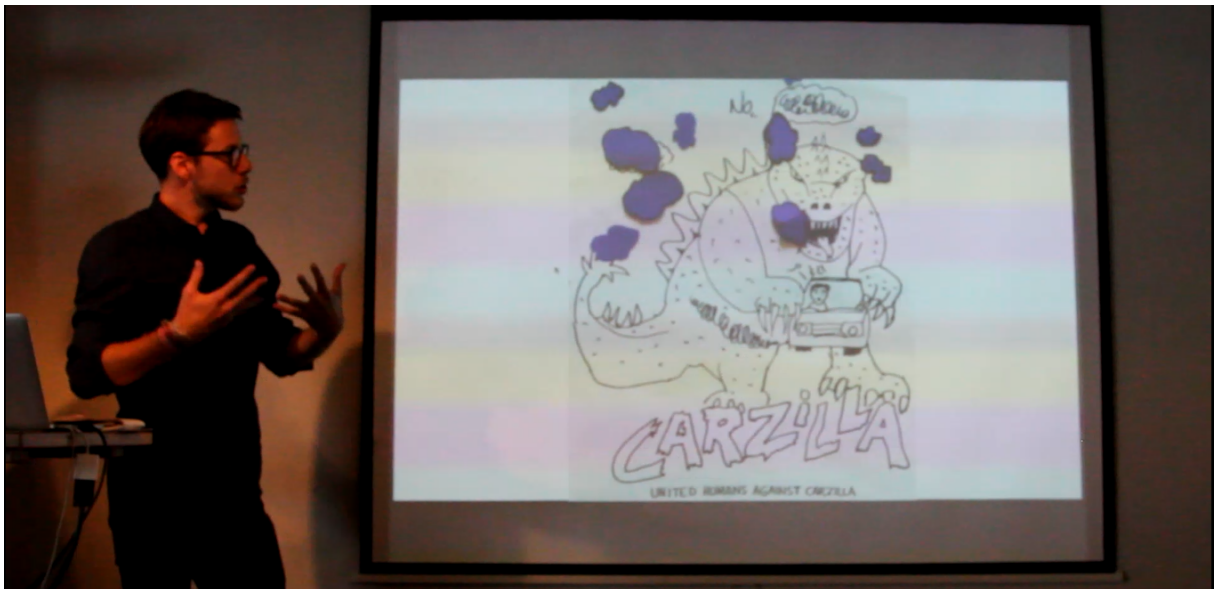
Stakeholders

Being on site will familiarize you with the stakeholders directly involved. This insight can determine who your players will be or it can further define the problem. The RE-ORGANISE team for instance found out that the entrepreneurs working in the NoordOogst area have some different ideas about the circular economy than the Hogeschool van Amsterdam. This allowed them to adapt the specificity of the issue they were supposed to address.

Materiality

Going to the locus of play will also show what you have to work with. According to designers Youn-Kyung Lim, Erik Stolterman Josh Tenenberg "what determines the specifics of how to form [games] and what [they] should be composed or made out of is the materials" (2008, 14). The elements present at the setting will limit and manifest the possible designs and interactions. The Air Quality group for instance found that on the Valkenburger- & Weesperstraat crossing – where the game would

be set – the available assets were traffic lights, cars and roads, bikers and bike roads, and several open spaces in the field of vision of the bikers. Based on these materials and their associated characteristics (such as the time available in front of a traffic light, the width of the bike road, etc.) the Air Quality group went on to design a game that could be played in the time of a traffic light wait, catering to the movement of bikers over the path, with visual feedback in their field of vision. Getting a hold on the materials is then a key consideration when designing games for cities.



Communication

Michiel de Lange explains that when making games for cities "a careful balance must be struck between simulating "real world" complexity and deliberate simplification (2015, 430)." This balance is determined by what is communicated to the player, and how.

Often, even the problem requires communicating a complex message, such as awareness of urban mining, a call to action for air quality, or responsible water use. This complexity is broken up into smaller pieces, some are left out completely, while some become the focus of the game itself. This abstraction is then presented to the player. During the game jam three areas influenced this abstraction.

Assets

The urban mining team determined that only some aspects of urban mining reality were necessary, so some of the material reality had to be filtered. Because of that, they determined that a virtual component was required that could act as a filter, translating some dimensions of the physical reality into a virtual layer. Physical space was abstracted into a version that characterized buildings as their resources. However, the team also complicated this model by adding social value as a metric. In order to raise awareness about urban mining, the team complicated their model slightly, to embed it more in reality. Communicating an issue through a game then

requires an inventory of the salient and necessary assets.

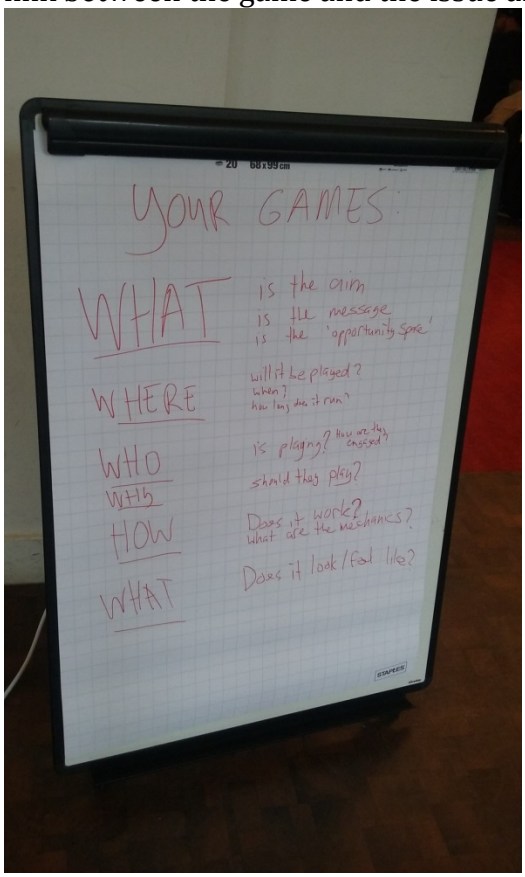
Mechanics
Games are characterized by their interactive nature – the players have to actually do something. But what actions should the player be allowed to do and how do these relate to the issue? The teams all debated on what the exact goal and scope was that they tried to achieve. Depending on this goal, the mechanics – or player actions – were decided upon.
But this translation of issue-sensitive actions and player actions is not a simple thing. The Air Quality team for instance ultimately made a game where the bikers had to make a choice whether to take a stand against pollution or not. This choice was made by parking in a particular spot in front of the traffic light. One may wonder whether this abstraction of 'taking a stand' into 'choosing a space' will convey the message best. According to game designer Miguel Sicart (2008) game mechanics matching the physical actions associated with performing it can invoke a stronger emotional response. Choosing a parking spot has no link to fighting against pollution. The designers were aware of this however and contextualized the action with further visual information. The mechanics should therefore be carefully chosen to fit the goal as well as tested for their reach.

Message
The shape of the message should be decided upon. All teams shied away from a prescriptive lecturing of how to engage with an issue for they feared this would incite more resistance than awareness. As a result, most of the games designed are more playful installations than actual games for players could experiment instead of following a linearly designed lecture.

The Noordoogst group followed a different form of abstraction however. They distilled the model of the circular economy to a very simple model – a game where waste products had to be assigned to the proper recipient, thus forming a circle – and gradually increased the complexity of the model with each level reached in an app. This is a clear example of procedural rhetoric (Bogost 2010), where game mechanics – in this case the closing of the circular economy loop – can convey an argument – an understanding of the circular economy. This argument became more complex and detailed as the player continued. The team had thus fully embraced the educational goal of their issue and translated this into an incremental learning curve through puzzle games. This shows that conveying a complex message through a game then usually takes more iterations of the message, or even an explanatory contextualization.

Conclusion
The game jam showed that several key considerations are made when translating issues into games. While there is no coherent structure to designing games for cities, these considerations are key metrics that influences the translation. Strikingly, these game design assignments are approached more as problem-solving projects than as game design challenges. Contrariwise, the evaluation criteria in the game jam (figure

below) were more focused on the nature of the game, while there was no mention of the translation of the issue. Although the process was rather disjointed, it was still valuable in that it provided a new abstracted view on the issues and provided key handles for the future. It did also show that new evaluation criteria looking at the link between the game and the issue are a necessary future project.



The training school did ultimately offer five initial insights into key considerations that cover games for cities:

1. Addressing an urban issue through a game in public space requires a difficult balance between the two. Often the problem and approaches are clear, but how to gamify it isn't.
2. Games must function in an urban context, replete with stakeholders and projects. Games can then serve to highlight unenlightened aspects of existing projects.
3. The urban space of play is a great source of material design. The setting provides the physical circumstances and the goal. The mission is to fit the game to the actors involved.
4. Games can explain complex systems in a variety of ways, ranging from filtered simplifications to incremental and procedural versions bordering on reality.
5. Conveying a complex message is often an iterative and sustained project.

Translating urban issues into games then rests on a new language we are still trying to learn. The future Games for Cities events and Cyberparks activities can use this early vocabulary to hopefully spin some prose.

Sources

Bogost, Ian. 2010. *Persuasive Games: The Expressive Power of Videogames*. Cambridge, MA: MIT Press.

Fullerton, Tracy. 2014. *Game Design Workshop: A Playcentric Approach to Creating Innovative Games*. Boca Raton, FL: CRC Press.

Lange, Michiel de. 2015. 'The Playful City: Using Play and Games to Foster Citizen Participation'. In *Social Technologies and Collective Intelligence*, 426–34. Vilnius: Mykolas Romeris University.

Lim, Youn-Kyung, Erik Stolterman, Josh Tenenberg. 2008. 'The Anatomy of Prototypes: Prototypes as Filters, Prototypes as Manifestations of Design Ideas.' A*CM Transactions on Computer-Human Interaction* Vol. 15(2).
Sicart, Miguel. 2008. 'Defining Game Mechanics.' *Game Studies* Vol. 8(2). http://gamestudies.org/0802/articles/sicart

Tutors

Kars Alfrink (MA, Utrecht School of the Arts) is an independent interaction and game designer who makes things with software and hardware for play, learning and creativity. Until recently Kars was partner at Hubbub, a boutique playful design agency, which he founded in 2009. He initiated and co-curated the Dutch offshoot of This happened, a series of events about the stories behind interaction design. He has worked as an educator and researcher at the Utrecht School of the Arts, and before that as an interaction designer at a couple of web agencies.

Gabriela Avram is Lecturer in Digital Media and Interaction Design and senior researcher at the Interaction Design Centre of the University of Limerick (Ireland). Building on a Computer Supported Cooperative Work and Knowledge Management background, her current research focuses on the design and development of technologies for civic engagement in urban communities. In parallel, she is also working on designing interactive technologies for cultural heritage settings with an emphasis on co-design. Dr. Avram has worked on numerous international research projects on topics such as: adult learning, cultural and social aspects of collaboration, distributed work practices, Open Source communities, and the adoption and uses of social media for work-related purposes in various environments. She has published extensively in international conferences and journals.

Lucy Chamberlin was Head of Programme for the RSA Great Recovery programme between 2014 and 2016, during which time she ran numerous events and practical workshops for everyone from policymakers and businesspeople to students and entrepreneurs. She gave evidence on the circular economy to the Scottish Parliament and GLA, spoke at numerous other public forums and pioneered the design residency that culminated in the TV show Survivor Sofa Story. After five years as a researcher and editor, Lucy pursued an MSc in Environmental Technology from Imperial College London (specialising in Business and the Environment), and here became interested in the concept of a circular economy. She went on to work as a Business Analyst at the Ellen McArthur Foundation, researching and writing a report for the Welsh Government on circular opportunities and helping to build up the CE100 Regions programme before leaving to join the RSA. She recently completed a report for the RSA Student Design Awards on sustainability in design education, and is currently working on a film about pioneering sustainable fashion (TV broadcast early 2017) and running circular economy workshops for the Royal College of Art.

Lada Hršak is the principal of design practice Bureau LADA established in 2010 in Amsterdam. LADA stands for Landscape, Architecture, Design and Art. The studio focuses attention to the inclusive aspects of creation of spaces, posing the question: How to make the world habitable. Following the training at the University of Zagreb Lada has completed the postgraduate program at The Berlage Institute in Amsterdam and consequently worked in a number of renowned Dutch architectural

offices. Parallel to her design work, Hršak holds several international teaching and jury engagements.

Ilaria Mariani. PhD in Design at Politecnico di Milano, Ilaria designs, investigates and lectures in games for social change as systems for communication and social innovation. Her research – theoretical and practical – mainly addresses the meaningful negative experiences certain games create to activate reflection and change. She focuses on games that challenge players to explore civic, social, political, moral or ethical issues, encouraging reflection and alteration of entrenched attitudes. To comprehend the impact on players and assess these games effectiveness in transferring meanings, she combines qualitative and quantitative research and employs interdisciplinary mixed methods.

Michael Nagenborg is an assistant professor for Philosophy of Technology (tenure-tracked) at the Department of Philosophy at the University of Twente. He holds a doctoral degree in philosophy (University Karlsruhe, Germany). His doctoral thesis has been on Privacy and ICT. From 2007 to 2013 he has been a member of the Research Centre for Security Ethics at the International Centre for Ethics in the Sciences and Humanities (University of Tübingen, Germany). In 2014 he became the Managing Director of the 3TU.Centre for Ethics and Technologies. His current research lies at the intersection of philosophical Anthropology and Philosophy of Technology. He is especially interested in the interplay of technology, culture, and the meaning of being human in the context of the city.

Ryan Pescatore Frisk is a co-founder and the director of Strange Attractors Design (2001), an award winning transdisciplinary studio which utilizes new and traditional media in the creation of innovative and strategic solutions to influence culture and commerce. Since mystifying his fourth grade class by controlling an Apple IIc with BASIC programming, Pescatore Frisk has been engaged in prototyping emerging technologies to develop thought provoking and playful experiences—from intimate and personal to participatory, hybrid, virtual and spatially expansive. Complementing his professional design experience, Ryan is also a Cultural Anthropologist specializing in media, visual and material culture. He is a researcher in the Visual and Digital Cultures Research Center at the University of Antwerp, focusing on incorporating emerging technologies to develop visual methodologies to study urban spaces in the context of globalization.

Silvia Tagliazucchi holds a PhD in architecture from the University of Bologna, with a thesis on urban morphology and territorial analysis. She is currently working for Architetti di Strada Association, in Bologna, Italy, on urban regeneration project with a participatory approach, and also as a lecturer (Design and Construction) for the University of Ferrara, Italy.

Maria Tomé is Architect (Las Palmas de Gran Canaria), Tricontinental Master's Degree in Integrated Architectural Projects (Madrid - Shanghai - San Diego), Master in Corporate Architecture (Cologne, Germany) and Civic Designer. In 2012, she

creates PAN!C Studio dedicated to Project Design, Development and Democratic-Tactical Urbanism through strategies promoted by Collective Intelligence and Research. She is also a part of the international community CivicWise (www.civicwise.org) by helping in the coordination with other fellows of the circles of Madrid, Canary Islands and the research laboratory INSULAB (research project of investigation/action dedicated to the common insular reality around the world, intervening in territorial, economic, social and cultural field).

Gianmarco Zaccaria. Engineer by degree, he is passionate for what concerns the intersection between art, science and social innovation. He creates new narratives to enhance my interactive experiences that range from multimedia installations in public spaces to wearable sensors for performing arts. Also, he considers the practice of research in its broadest sense, collaborating with projects of contemporary artistic experimentation, as well as, facilitating maker spaces and community-based creation of knowledge.

Local organizing committee

Martijn de Waal is researcher in the Lectorate of Play & Civic Media at the Amsterdam University of Applied Sciences, where he is also taking part in the Citizen Data Lab. He is the founder of The Public Matters, an office that carries out research on the role of new media in society. He co-founded The Mobile City, a think tank on new media and urban design, and also co-founded De Nieuwe Reporter, a Dutch blog on the future of journalism. He was previously employed at at the MA-program in the department of Media Studies at the University of Amsterdam, and he was a visiting scholar at MIT's Center for Future Civic Media, a collaboration between the Medialab and Comparative Mediastudies.

Ekim Tan was born in Istanbul, graduated as an architect from the Middle East Technical University [METU] with the Archiprix Award in 1999, and received a second degree in urbanism of the Technical University Delft with distinction in 2005. In 2014, she finalized her PhD thesis at the Architecture Faculty of Delft University of Technology, Department of Urbanism section and at the International New Towns Institute, INTI in Almere. She founded the city-design and research network Play the City, a network focusing on strategic urban development in emerging countries, with collaborators from Cairo to Istanbul to Amsterdam.

Gabriele Ferri is researcher at the Amsterdam University of Applied Sciences (lectoraat in Play & Civic Media). He was previously postdoc at Indiana University (USA) and involved in the Intel Science and Technology Center for Social Computing (ISTC Social). He has recently published the edited volume “Interactive Digital Narrative: History, Theory and Practice” for Routledge, and he is an editor for the journal G|A|M|E Games as Art, Media, Entertainment. As a practicing urban game designer, he has co-organized location-based performances in London, Bloomington IN (USA), Barcelona, Bologna and Modena.

Michiel de Lange is Assistant Professor in New Media, Department of Media and Culture Studies (MCW) at Utrecht University, where he is also a researcher in NWO funded projects about the "Hackable City"(KIEM and Embedded Research). He co-founded of The Mobile City, a platform for the study of new media and the city. He researches (mobile) media and urban culture, play and identity. He holds a PhD at the Erasmus University of Rotterdam (Faculty of Philosophy), with a dissertation called Moving Circles mobile media and playful identities (2010).

Day-by-day program

All the activities of the training school will take place, unless specified differently, in Plantage Muidergracht 14 (https://goo.gl/maps/qUCdsgMex8p).

Day 1 – Monday 10/10
General themes: welcome, introduction to "circularity" and "games for cities", demo sessions.

Location: Plantage Muidergracht 14 (https://goo.gl/maps/qUCdsgMex8p).

Tutors: Ilaria Mariani (game design), Lada Hrsak (architecture), Giammarco Zaccaria (making/hacking)

13.00 Workshop space opens

13.30-14.00 Welcome & announcements

14.00-16.00 Game session: Circular Amsterdam (Play the City http://www.playthecity.nl/)

16.00-18.00 Introducing Circularity and Games for Cities (short speeches: Ekim Tan, Martijn de Waal & Gabriele Ferri, Sladjana Mijatovic, Giammarco Zaccaria)

18.00-19.00 Dinner (provided by the organization) at Mediamatic http://www.mediamatic.net/ Location: https://goo.gl/maps/ezwV4bmC67A2 Dijksgracht 6, 1019 BS Amsterdam

19.00-21.30 Game session: Scenario Game (at Mediamatic)

Day 2 – Tuesday 11/10
General themes: presenting the design challenges.

Location: Plantage Muidergracht 14 (https://goo.gl/maps/qUCdsgMex8p).

Tutors: Ilaria Mariani (game design), Silvia Tagliazucchi (participatory design), Giammarco Zaccaria (making/hacking)

9.00 Workshop space opens

9.30-11.00 Introducing the design challenges

11.00-17.00 Studio work with tutors & Urban explorations (Nieuwmarkt, Plantage, Noord)

17.00-18.00 Report on urban exploration

18.00-20.00 Dinner (on your own)

20.00-22.00 “City Game Talk Show”, public event. Location: Pakhuis de Zwijger (https://goo.gl/maps/LcRFugEY9U32). Speakers: Lucy Chamberlain, Ilaria Mariani, Kars Alfrink, Francesca Miazzo, Michiel de Lange.

Day 3 – Wednesday 12/10
General themes: game design iterations, design futuring.

Location: Plantage Muidergracht 14 (https://goo.gl/maps/qUCdsgMex8p).

Tutors: Kars Alfrink (game design), Ilaria Mariani (game design), Lada Hrsak (architecture), Giammarco Zaccaria (making/hacking), Silvia Tagliazucchi (participatory design), Maria Tome Nuez (architecture)

9.00 Workshop space opens

9.30-10.30 Spot lectures: Kars Alfrink (urban game design), Lucy Chamberlain (circularity)

10.30-15.00 Studio work with tutors.

15.00-18.00 Demo session: Mobile Urban Futuring (Play & Civic Media)

18.00-19.30 Dinner (on your own)

19.30-21.30 Pecha Kucha night. Trainees may present their own work/research to their colleagues. Sign up on day 1.

Day 4 – Thursday 13/10
General themes: participatory processes, urban design practices, design critiques

Location: Plantage Muidergracht 14 (https://goo.gl/maps/qUCdsgMex8p).

Tutors: Gabriele Avram (Digital Media and Interaction Design), Ilaria Mariani (Game design), Lada Hrsak (Architecture), Giammarco Zaccaria (Making/hacking), Silvia Tagliazucchi (Participatory design), Maria Tome Nuez (Architecture), Michael Nageborg (Philosopher), Ryan Pescatore Frisk (Visual methods)

9.00 Workshop space opens

9.30-10.30 Spot lectures: Silvia Tagliazucchi (participatory processes), Maria Tome Nuez (Architecture & Planning)

10.30-12.00 Presentations of first iterations and peer design critique

12.00-13.00 Lunch

13.00-14.00 Spot lecture & discussion: Michael Nagenborg (play ethics: when games aren't the answer)

14.00-18.00 Studio work with tutors.

18.00-20.00 Dinner (on your own)

20.00-21.30 Optional studio work if needed

Day 5 – Friday 14/10
General themes: visual methods, final presentations

Location: Plantage Muidergracht 14 (https://goo.gl/maps/qUCdsgMex8p).

Tutors: Gabriele Avram (Digital Media and Interaction Design), Ilaria Mariani (game design), Lada Hrsak (architecture), Giammarco Zaccaria (making/hacking), Michael Nageborg (Philosopher), Ryan Pescatore Frisk (visual methods)

9.00 Workshop space opens

9.30-10.30 Spot lectures: Ryan Pescatore Frisk (visual methods), Lada Hrsak (architect)

10.30-14.00 Studio work with tutors.

14.00-15.00 Transfer to the Pakhuis de Zwijger (https://goo.gl/maps/LcRFugEY9U32).

15.00-17.00 Final public presentations at the Pakhuis de Zwijger (https://goo.gl/maps/LcRFugEY9U32).

17.00-22.00 Drinks, dinner (provided), party!

Literature

The following literature was presented to participants to prepare themselves for the training school.

Alfrink, Kars. 2015. The gameful city. In *The gameful world: Approaches, issues, applications*, ed. Steffen P. Walz and Sebastian Deterding. Cambridge, MA: The MIT Press. [I don't have a digital version, only the book]

Foth, Marcus, Andrew Hudson-Smith, and Dean Gifford. 2016. "Smart Cities, Social Capital, and Citizens at Play: A Critique and a Way Forward." In *Research Handbook on Digital Transformations*, edited by F. Xavier Olleros and Majlinda Zhegu. Cheltenham, UK: Edward Elgar. https://db.tt/Wwi7ynMX.

de Lange, Michiel. 2015. "The Playful City: Using Play and Games to Foster Citizen Participation." In *Social Technologies and Collective Intelligence*, edited by Aelita Skaržauskienė, 426-434. Vilnius: Mykolas Romeris University. http://bit.ly/1hWbkeb.

Sicart, Miguel. 2016. "Play and the City." *Navigationen special issue" Playin' the City: Artistic and Scientific Approaches to Playful Urban Arts"* no. 16 (1): 25-40. http://dokumentix.ub.uni-siegen.de/opus/volltexte/2016/1004/pdf/Navigationen_Playin_the_city.pdf.

Videos
McGonigal, Jane. 2010. "Gaming can make a better world". *TED Talk*. http://www.ted.com/talks/jane_mcgonigal_gaming_can_make_a_better_world.html. (20 min.).
Squire, Kurt. 2013. "Civic Engagement Through Digital Games." http://www.edutopia.org/kurt-squire-games-civic-engagement-video (9 mins.)

Optional
Gordon, Eric, and Jessica Baldwin-Philippi. 2014. "Playful Civic Learning: Enabling Lateral Trust and Reflection in Game-based Public Participation." *International Journal of Communication* Vol. 8. http://ijoc.org/index.php/ijoc/article/view/2195/1100.

Debord, Guy-Ernest. 1956, 1958. "A User's Guide to Détournement" + "Theory of the Dérive". Available onhttp://www.bopsecrets.org/SI/index.htm. [classic Situationist texts about plaful subversive practices].
Juul, Jesper. 2011. "Gamification Backlash Roundup". Blogpost on: http://www.jesperjuul.net/ludologist/gamification-backlash-roundup (+ blog comments!)

Licoppe, Christian, and Yoriko Inada. 2010. "Locative Media and Cultures of Mediated Proximity: the Case of the Mogi Game Location-Aware Community." *Environment and Planning D: Society and Space* 28 (4): 691-709.http://www.envplan.com/abstract.cgi?id=d13307.

Tan, Ekim. 2014. *Negotiation and Design for the Self-Organizing City: Gaming as a Method for Urban Design*. Delft: Delft University of Technology, Faculty of Architecture and the Built Environment, Department of Urbanism. (Ch. 3 "City Gaming for the Self-Organizing City" pp. 107 – 140). https://db.tt/0C77dxkx.

Pdfs of the non-hyperlinked literature can be found here:

https://drive.google.com/drive/folders/0B0MtBrq2ga-oYzhTbzluWllzdVE?usp=sharing

Acknowledgements

The organizers wish to thank all participants, tutors and stakeolders for their contributions. In addition, a special thanks to Joost Vervoort (Utrecht University and University of Oxford) for organizing a scenario game for our participants, to Txell Blanco Diaz and Adam van Heerden for staging the Circularity Game. Thanks to Monique van Reijen and Genevieve Korte for their help in putting the event together. Thanks to Pakhuis de Zwijger for making their spaces available for the City Game Talkshow and the final presentations, and thanks to Khashayar Ghiabi for hosting us at the Pakhuis. Thanks also to Sjors Martens (University of Utrecht) who contributed to this document with his report of the training school. Thanks to Ben Schouten for his support of the project.

Games for Cities Training School Evaluation

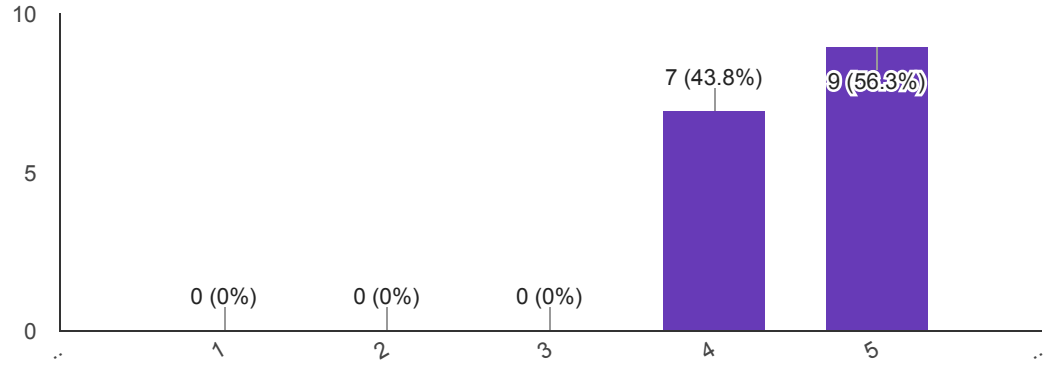
QUESTIONS RESPONSES 16

16 responses

SUMMARY INDIVIDUAL

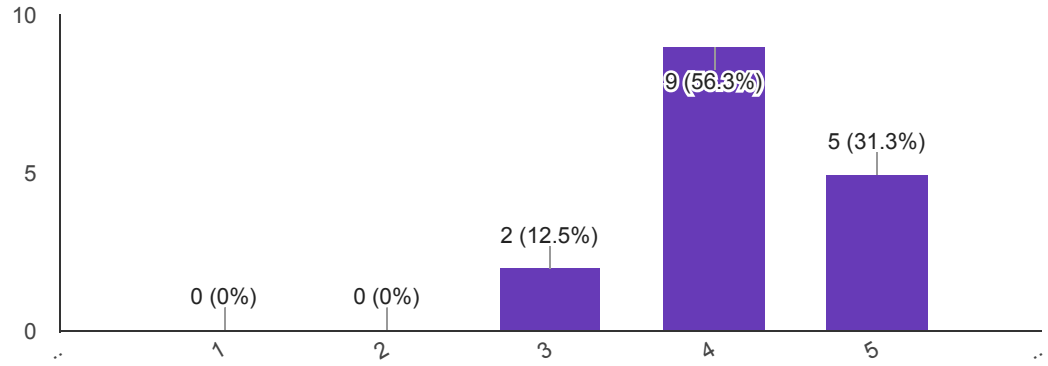
Accepting responses

Overall, how would you evaluate the training school program? (16 responses)



To what extend was the training school productive for you in learning new skills, insights, and experiences?

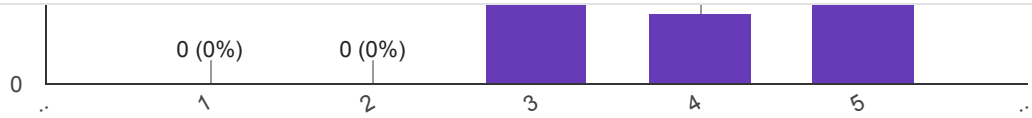
(16 responses)



How would you rate the relevance and 'interestingness' of the cases that trainees worked on?

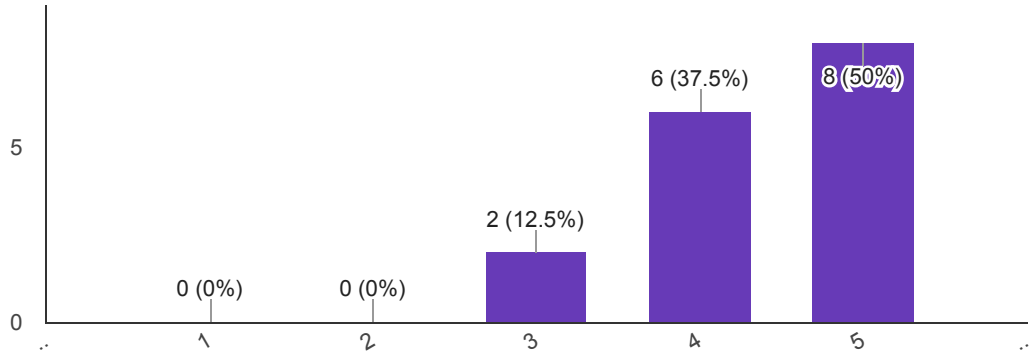
Games for Cities Training School Evaluation

QUESTIONS RESPONSES 16



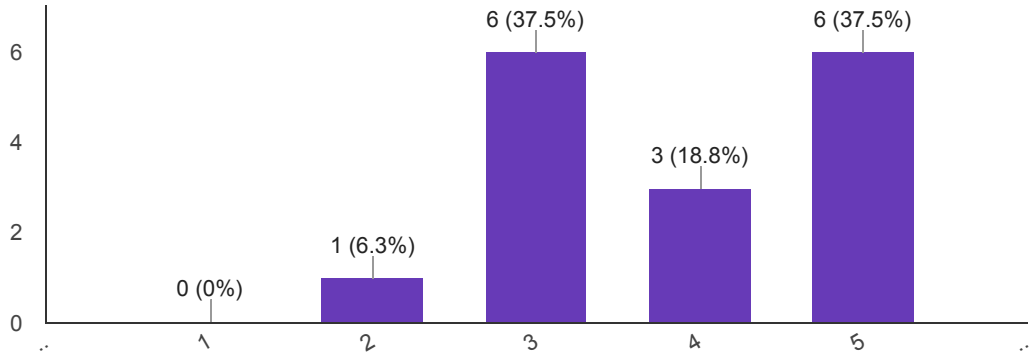
How would you rate the relevance and 'interestingness' of the lectures?

(16 responses)



How would you rate the relevance and 'interestingness' of the games we played (Play the City, Scenario Game Workshop, Futuring Session)

(16 responses)



How would you rate the quality and relevance of the tutoring during the training school?

(16 responses)

Games for Cities Training School Evaluation

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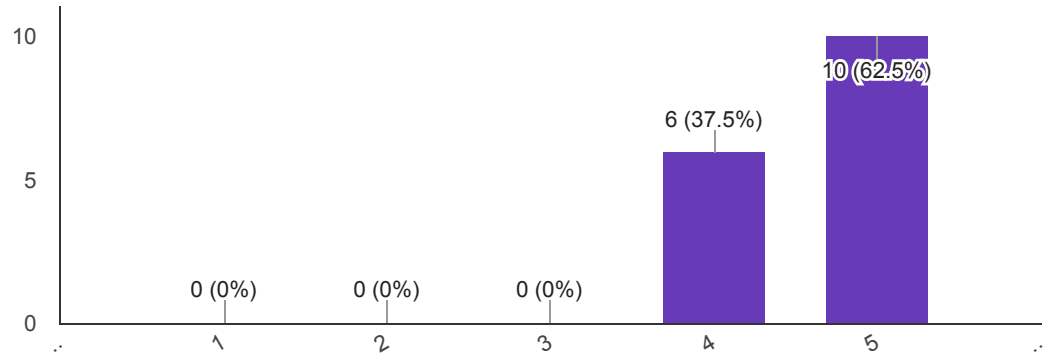
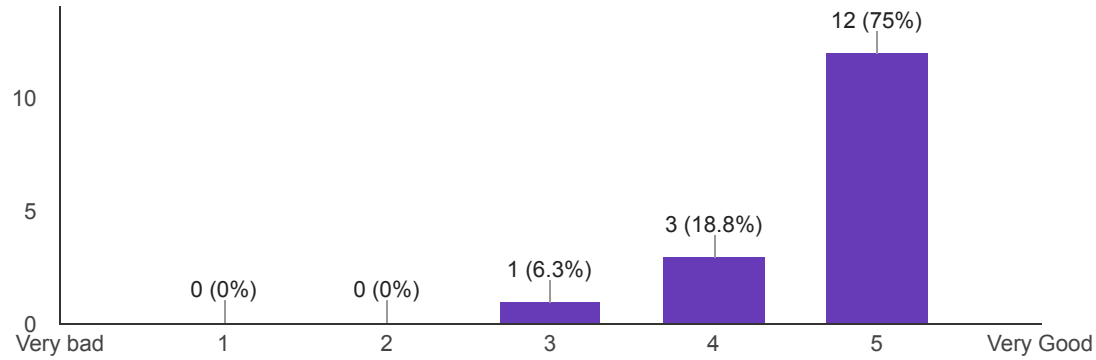
How would you rate the organization of the training school ? (16 responses)



How would you rate the ways we communicated to you about the programme & practicalities of the training school ?

(16 responses)



What dit you like about the training school? (15 responses)

I really enjoyed meeting new people from all different disciplines. I really liked the idea that we were working with a real stakeholder. and I really liked the pecha-kucha night.

Prior to reading list and videos sent out by the school and of course the training school itself, I never thought about using games and play to examine problems etc. I can see the huge potential now with a more transdisciplinary approach.

interdisciplinarity, approachability of everyone involved, real cases

The subject, the mixing of researchers from different backgrounds, the fact that we had a challenge to do together (develop a game proposal), the grounding of projects in real cases, the meetings with the real stakeholders, the playfulness, the orchestration of project, lectures and gimme pigging for ongoing game developments, meeting a bunch of wonderful and interesting people, the kindness and goodwill of everybody, a good balance between rules and informality, drinks, fruits all the time, having dinner together... To name but few... ;-)

The multidisciplinary and multinational approach.

Everything stated above: organization, the program and the participants, the exact problems that we were working on, which were precise and gave as opportunity to give final products at the end (at least as an idea or a concept)

The openness of all involved to make it into a stimulating, productive and inspiring course, helped in no small part by the superb organisation, attention to making content interesting and.

The exchange with students and tutors, the lectures and the fact that each project had a real world counterpart

Very organized and the tutors and supporting organizers were very knowledgable.

the people organising and the attendees

The deep integration between the research/design process and the real needs of existing business or institutions; the informal approach of the tutors; the high level standard of the trainees.

What should we do different next time we organize a training school?

(16 responses)

the schedule was really tight. we didn't really have a chance to reflect on the lectures but at the same time they were so interesting that personally I didn't want to miss any of the lectures or sessions.

Organizing better the lunch time, and give time to people to reflect and rest the brain :-)

I think the number of tutors could be decreased. Although their insights were always valuable, we found it difficult to concentrate and be productive as a team when we had to explain every small progress we made to many different people.

less intense, more time to socialize with others

Less tight schedule, in order to allow more reflection, discussions and playful interactions beteen participants. This would allow future cooperations

Some more time to reflect on everything would have been invaluable. The schedule was very intense with little time to really dismantle the problems, critically engage with the case studies or to even reflect on all the information shared in the presentations. It would also be useful to have a more transdisciplinary work and multidisciplinary teams- if games and play are going to help create innovative potential solutions to complex problem- all of which

it would be more useful to hand out the details of the projects people would be working on prior to arriving there. Some time to really examine the case study and the surrounding issues might make for more meaningful engagement and outcomes- particularly when they are real issues that the city are trying to work on. It would have also been very useful to know who was on our teams, and what their background was prior to coming over. I assumed there would be a person very familiar with the different issues on each team and this was not the case at all. It might have been useful to have the teams present to each other - just a short 6 minute presentation based on their experience/knowledge and using case study on the second day. Also, far too many tutors there- it was very difficult to work in a team and have to explain to the many different tutors the same things over and over again. Often the tutors would start a discussion with only one or two team members and this caused even more problems and a complete disconnect in the group itself. I think a few skilled facilitators would have been invaluable fro each group. In the future it might be worthwhile to have a person/facilitator there to document the progress/discussions of the teams and then have the teams themselves to report back to all tutors together at the end. I hope this doesn't come across as too negative because I did enjoy the week and I met some wonderful people. I just think a few tweaks in any future training schools could really improve things for everyone. Thank you Gabriele, Marjin and Ekim.

only get "customers" that are interested in our solutions (person from de Waag did not even show up to presentation and his replacement did not talk to us), shorter days (max 8 hours)

A pause in the time schedule, at some moment, one evening or one morning with no program would be productif to let stimulation settle, to maybe do something in a city were we don't live (I always want to explore, this week it was not possible, without deciding to skip sth from the program)

In our group, for some reason the playfulnes did not kick in so much, I think it was partly due to how the project (case study) was presented to us (we felt the stakeholder not convinced or inspired about the possibility to expand and change her business) partly due to our difficulties as different professionals to let go into a playful adventure mode together and just fly.
To me we could have gone into playful mode quite quickly, imagine an attractive narrative and then try to weave back circular mechanisms to make the game relevant and impacting on circular Amsterdam. Or we could have decided for one single stake we identified and unfolded it from there. Instead we discussed a lot of different postures and proposed an overal scheme, which is then difficult to develop strongly in the amount of time we had. I don't have a solution how to introduce the task differently in order to bypass these groupe dynamics, but I am thinking about...

Implement more informal events into the programme, both in the day and evening. Mostly to change the pace of the training school.

I would prefer no activities after dinner, it gives more time for informal conversations between tutors and trainees as a way to understand each others work and professional interests.

The course if any thing, was too packed. it would have been better to have finished earlier and carried on the exchange and learning through the informal channels - food, drinks and general socialising.

At least one session workshop on how to prototype and playtest games, also presenting methodologies for evaluating games and game play experienced

Some lectures on prototyping for games and some tutoring on the standard processes and methodologies for developing games for cities.

advertise early so there is time for a clear distinction and agenda between trainees, trainers and the companies involved in the school

Something about tutorship:
- Tutors weren't always super relevant or on focus about the work of the teams and at times the working teams were rejecting tutors' aid for the sake of a timely work completion.
Having said this, tutors' opinions, stories, personal work, and dialogues were all inspiring and another very valuable

Games for Cities Training School Evaluation

QUESTIONS RESPONSES 16

How do you first learn about the training school? (16 responses)

My supervisor (who is the head of department in SEED school of university of Manchester) sent me email about it.

On Facebook

Social media And from a friend

fb, think from Project for Public Spaces

Email by a friend

My co-supervisor

via e-mail from my course coordinator at Utrecht University

My PhD supervisor forwarded me the call for proposal

From my University lecturer.

Throughout COST TU1306 Action- CyberParks

Social media feed - not sure of specifics!

From my colleague mark

Phd mailing list group

through my university

By word of mouth, from peers.

A colleague.