Scientific Report

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Home institution	Utrecht University		
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Host institution	Digital Cultures Research Center (DCRC - Dir. Mandy Rose) at the Pervasive Media Studio/Watershed, Bristol UK		

(1) Abstract

This STSM (*short-term scientific mission*) investigates how digital play and games may contribute to fostering citizen engagement and participation in the smart city. By addressing this question the STSM contributes to ongoing research and debates about people-centric perspectives of the relationship between Information and Communication Technologies (ICT) and urban public spaces, which is the main aim of the EU funded COST1306 Action "Cyberparks". The outcomes of this STSM provide COST TU1306 with a better grasp of the current state of affairs in "playful city" or "playable city" research and development, and contribute to the exchange of ideas and the development of shared interest and networks for future collaborations.

(2) Purpose of the STSM and relevance to the COST Action TU1306 objectives

2.1 Main purpose of the STSM
The main purpose of this STSM (*short-term scientific mission*) is to investigate the playable city as an alternative to the smart city agenda. Since several decades the relationship between technology, creativity, and city life has been an intimate one. Following "creative city" policies popular in the late 1990s and early 2000s, "smart city" business, policy and design visions have gained considerable traction since the mid-2000s. Smart city agendas aim to improve services and livability through ICTs and supporting infrastructures like urban labs, and rapidly gain foothold in cities worldwide. Large tech companies like IBM, HP, CISCO, Microsoft, and so on, are forming smart city coalitions with municipalities and knowledge institutions, in what is known as a "triple helix". Among the issues that smart city policies seek to address are mobility, clean energy, water and food production and distribution, health, living and public participation (see for example Hollands 2008, Klauser, Paasche, and Söderström 2014). However, there are huge differences in emphasis and actual implementation of smart city visions between cities worldwide, like for instance Bristol, London, Rio de Janeiro, Barcelona, Amsterdam, Masdar, or Songdo.

Smart city visions have received much criticism, both by academics and practitioners (for example Greenfield 2013, Hemment and Townsend 2013, Townsend 2013, Hollands 2008, de Lange and de Waal 2013). By and large, these criticisms target the ill-defined notion of "smartness", the simplified presumption of what constitutes city life, and the apolitical technocratic nature of the smart city agenda. Many smart city views remain conspicuously silent about what "smart" actually means, and who are supposed to be smart. In numerous proposed smart city plans it seems that city life and experience are primarily about control, efficiency and predictability, rather than about encountering the unexpected and dealing with differences. Moreover, the smart city's myopic obsession with hi-tech solutions seems to unproblematically assume that "technological fixes" can by themselves solve complex urban problems. Many of these technology-driven solutions ignore the active role and contributions of citizens. Such neglect can even have adverse effects on urban public life and identities at large by thwarting initiative and a sense of ownership (de Lange and de Waal 2013). Many smart city policies do not empower citizens to become active "players" and "hackers" of their own cities.

What alternatives then are there to these technology-driven smart city visions? How can we depart from a more active role of citizens? Various alternatives have been proposed to address the weaknesses mentioned above. What is noteworthy is that quite a few of these explicitly focus on city life in conjunction with play and games. Examples include the "playable city" [1], "playful city" (de Lange 2015), and "gameful city" (Alfrink 2015). Other terms make this connection too but are not directly a response to the smart city, for instance the "ludic city" (Stevens 2007, Feirreis 2007), "game urbanism" (van Westrenen 2011), "playful planning" (de Lange 2014), some earlier invocations of the "playful city" (Borden 2007), and the wide body of literature about urban games, civic games, pervasive games, hybrid reality games and other more or less overlapping terms (e.g. Gordon and Koo 2008, Gordon, Schirra, and Hollander 2011, de Lange 2009, 2013, McGonical 2007, Montola, Stenros, and Waern 2009, de Souza e Silva and Hjorth 2009, de Souza e Silva and Sutko 2009). All of these terms express an explicit connection between urban culture and playfulness, which prompts us to investigate this further.

Other people-centric alternatives to the smart city are the "social city" and the "hackable city", terms Martijn de Waal and I have used in various publications and collaborations.[2] The notion of "hackability" is of particular interest for this STSM for at least two reasons. First, from the literature multiple parallels emerge between play and hacking practices, for instance in the fun and pleasure of both, the self-motivated *autotelic* ethic, being creative with things at hand, an ever-present tension between competition and collaboration, subverting existing rules and boundaries, the affordance to creatively change objects, services and structures into something else however temporary, and many more (see for example Roszak 1986, Himanen 2001, Levy 2010). Second, and more pragmatically, I am involved in a series of ongoing research projects about "hackability", focusing on people's active involvement in shaping the urban environment with the aid of digital media technologies. By connecting existing research that is being done on the "hackable city" and the "playful" or "playable city", this STSM shares knowledge and networks, and cross-fertilizes multiple fields of inquiry.

In these people-centered alternative views, the issue at stake is how to engage "smart citizens" with their urban environment and each other with the aid of play and games. My main line of investigation is to find out how notions like the "playful city" and "playable city" open up a multitude of ways to conceive of "smartness" and urban public life, instead of just a technologically driven one. If we want not just urban systems but also citizens to be smart, we need to better understand how people are clever in a multitude of ways when it comes to participating in and hacking their urban environment, and how we can leverage this creativity to create more interesting cities and make city life better for people.

2.2 Relevance to the COST Action TU1306 objectives

The COST1306 Action "CyberParks" aims to foster knowledge about the relationship between Information and Communication Technologies (ICT) and Public Spaces, and build a European research network around this theme. This STSM contributes to the overall COST1306 Action in multiple ways:

a. By focusing on the "playable/playful city" this STSM deepens the shared understanding of digital media technologies and citizen participation in urban collective issues.
b. The STSM contributes to a body of best practices and example projects that is useful for understanding ICTs and urban life.
c. The STSM contributes to theorizing "Cyberparks" as play spaces where citizens are able to "hack" and "game" the city using their own tools. It focuses on the ways in which people learn to become active makers of their urban environment outside of, or in reaction to, existing institutional structures.
d. The STSM provides a typology for analyzing and developing the "playful city" or "playable city", and reflects on its strengths and weaknesses. This allows for a sharper view of people-centric notions and practices of smart citizenship that can be applicable elsewhere.
e. The STSM outlines a field of research that in turn may lead up to a collaborative EU grant proposal that will involve COST1306 members.

In addition, it is the hope of the STSM researcher that the research benefits the host organization, for instance by providing an overview of implicit knowledge present at the host and/or generating new insights and models.

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[1] See http://www.watershed.co.uk/playablecity.
[2] See www.themobilecity.nl.

(3) Description of the main work carried out during the STSM

3.1 Objectives and research questions of the STSM
This STSM has taken place in Bristol, UK, at the Digital Cultures Research Centre (DCRC - http://www.dcrc.org.uk/about/) and the Pervasive Media Studio (PMS - http://www.watershed.co.uk/pmstudio/current-research) at the Watershed (http://www.watershed.co.uk). The DCRC is a hub for a network of researchers from across the University of the West of England who do research into the practices and socio-cultural meanings of emerging media. Together with the University of Bristol it is a partner in the Pervasive Media Studio. Located at the Watershed Media Centre in Bristol's Harbourside, the Studio is an environment where academics, designers, artists and engineers share expertise to produce new experiences for media audiences. Watershed (a curated cross-art venue) and the Pervasive Media Studio (a city-centre research space) are the initiators of the *Playable City* program and award. This is a way to rethink the smart city through the lens of play and games. Supported by a number of institutions, DCRC/PMS/Watershed since a few years organize the *Playable City* program, which consists of events, conferences, and an award (http://www.watershed.co.uk/playablecity). In this view our future cities should be conceptualized as playable, malleable, and idiosyncratic public spaces. The recent Playable City Award Call 2015 contains the following statement:

"All over the world governments and tech companies are investing in smart systems for cities, using communication networks and sensors to join up services, collect data and make efficiencies. The Playable City Award asks us to imagine how we might use these same technologies to make our cities more livable, hopeful and collaborative." [3].

This STSM investigates the nascent "playable city" research and design agenda that connects the world of urban research and design to the world of new media/digital play and games scholarship and design. The objective of the STSM is to develop a better understanding of the current discourses, practices and theories that relate playability and playfulness to digital media, city life and citizen participation, get an initial overview of actual practices in various stages of maturity, and forge connections between the various places where similar research is being done.

The main question of this inquiry is in what ways digital play and games may contribute to fostering citizen participation in the smart city. From this main question a number of more concrete subquestions arise:

1. Who are main stakeholders and individuals involved in "playful city" or "playable city" discourses and practices, particularly in Bristol but also in the UK and elsewhere?
2. What are the main ideas and assumptions these stakeholders and people have about play and games as alternatives for smart city discourses and for fostering civic participation?
3. What according to these stakeholders and individuals are the particular strengths and possible weaknesses of play and games for a people-centered view of the smart city?
4. What is the status of their ideas and practices, e.g. are they incipient ideas, prototypes, or already tested and evaluated?
5. Which types of games and kinds of play are being employed towards the stated goals of the "playable" or "playful city"? Can a provisional yet productive typology be made?
6. How can key concepts like "playability" and "playfulness" be further defined and operationalized in relation to participatory citizenship (what are their salient differences if any)?
7. How do "playable city" and "playful city" relate to similar terms, particularly those that emphasize some form of active smart citizenship such as the "hackable city"?

In the Netherlands too a number of parties are involved in shaping up a playable/playful city. An example in case is the *Playful City* workshop recently organized by *Het Nieuwe Instituut* and *Freedomlab* in Amsterdam in October 2014 [4]. In this workshop, participants from various countries - game designers, academics, artists - were brought together to talk about and work on an agenda for designing the playful city. At Utrecht University, where the STSM researcher is based, the study of play and games make up one of the interdisciplinary and interfacultary

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[3] Source: http://www.watershed.co.uk/playablecity/apply/2015.
[4] See http://www.hetnieuweinstituut.nl/en/international/partner-programmes/asem-international-networking-programme/creative-skills-playful.

research focus areas.[5] Later in 2015 this focus area shall announce several sub-themes, including the playful/playable city. The Utrecht-based Center for the Study of Digital Games and Play, connected to the department of Media and Culture Studies (GAP - http://gamesandplay.org), aims to study games and play from the larger viewpoint of cultural transformations, which includes urban culture. Finally, as already mentioned, this STSM is connected to ongoing research project about the "hackable city", which is also positioned as an alternative to the smart city.

3.2 Approach and methodology
Subquestions 1 - 5 focus mostly on finding out what the main stakeholders say and do. Subquestions 6 and 7 attempt to synthesize these findings into a more general framework. Answers to these subquestions 1 - 7 shall be given by means of a mixed method approach. This includes doing semi-structured and unstructured interviews with relevant stakeholders and people; observations and informal interactions (a kind of mini-ethnographic "participant observation"); textual analysis of a selection of playful objects/apps/interfaces/interventions and games (possibly "playable city award" winners and runner ups) that focuses on the affordances and the mechanics-dynamics-aesthetics of these interventions (the so-called MDA-model Hunicke, LeBlanc, and Zubek 2004); a discourse analysis of relevant sources, primarily those published and disseminated by the host institution and affiliates/partners but also sources by other practitioners and scholars.

The STSM has been conducted between 25 March - 2 April 2015. The researcher was stationed at the Studio. Being at the venue proved to be a good way to have both prescheduled interviews and ad hoc talks with other people present at the Studio, and get a sense of what is done at the Studio and its energy. In addition, the STSM researcher has visited one of the 2013 Playable City Award winners, who is now stationed in London, and has visited an exhibition of work of the 2014 winner at the London Design Museum. Moreover, the STSM researcher has participated in a number of playful events, one by Tina Beck and one by Tom Abba and Duncan Speakman (Circumstance).

(4) Description of the main results obtained

4.1 Findings: a wide variety of playful city making activities
The findings of this STSM are presented below, structured along the subquestions that were raised. This allows the main question of this STSM to be tentatively answered.

4.1.1. Who are main stakeholders and individuals involved in "playful city" or "playable city" discourses and practices, particularly in Bristol but also in the UK and elsewhere?

An initial step in the STSM was to get to know the host organization, or better, the fairly complicated constellation of several organizations, and the network of people involved in playable city activities. The STSM researcher has had unstructured interviews with:

- Mandy Rose (Director DCRC)
- Nick Triggs (DCRC Research Centre Manager)
- Martin Rieser (Visiting Professor, Media Artists, COST TU1306 Member)
- Jon Dovey (Professor of Screen Media & Director of REACT)
- Patrick Crogan (Associate Professor of Digital Cultures),
- Hilary O'Shaughnessy (Producer for Playable City)
- Jess Linington (Research Associate involved in a number of DCRC projects)
- Rik Lander (Maker of interactive narratives)
- Tom Melamed (Product Director/Game Designer Calvium.com)
- Tom Abba (Associate Professor in Art & Design UWE, writer and designer)
- Ben Gwalchmai (Actor, Maker, Writer)
- Vanessa Bellaar Spruijt (Creative Producer of pervasive media projects, Project Coordinator Rife magazine)
- Gyiorgyi Galik (Winner 2013 Playable City Award)

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[5] See http://www.uu.nl/en/research/profile/focus-areas/game-research.

- Claire Reddington (Creative Director of Watershed, Executive Producer of REACT hub and a Visiting Professor at University of the West of England), Tine Bech (Visual Artist, Researcher and PhD student of the University of the West of England)

From these conversations it became clear that the playable city agenda was conceived at the Watershed and that there are many other organizations, people and partners in Bristol and beyond who are stakeholders in this agenda. Interviewees mentioned for example the Bristol Game Hub, Bristol Municipality, Bristol's smart city initiative *Bristol is Open* (www.bristolisopen.com), game companies like Slingshot (makers of the successful Zombie chase street game "2.8 Hours Later"), Calvium, the makers of the community game Playing Out, cultural organizations and countercultural citizen-driven areas like Stokes Croft and the Bear Pit, and many more. Interestingly, several respondents pointed out that Bristol has an alternative and rebellious ethos and history of subversion. Examples include the Bristol Queen Square riots pushing for more political representation, and the countercultural area known as the "People's Republic of Stokes Croft".

Beyond the city of Bristol itself, there are strong relationships with other urban game makers in the UK and abroad. It can be concluded that the *playable city* discourse consists of a loosely affiliated network of people and institutions interested in the interconnections between creativity, city life, digital media, civic participation.

4.1.2. What are the main ideas and assumptions these stakeholders and people have about play and games as alternatives for smart city discourses and for fostering civic participation?

From the often quite lengthy conversations, it became clear that the *playable city* should be seen as an umbrella term that connects a range of specific activities that take place at the PMS/Watershed and in Bristol. These include *playable city* commissionings, artist residencies, projects and events, conferences, Friday afternoon talks, and the playable city award. The term is explicitly positioned as a people-centric view of the smart city. In that sense it is a continuation of ongoing activities at the Watershed, such as the Open City project (http://watershed.co.uk/opencity/), which attempt to take a human approach to creativity and innovation in the city as well as to pervasive media technologies. Watershed itself has secured funding to commission "playable" pervasive media projects. According to Watershed Creative Director Claire Reddington, the phrase *playable city* is a way to reach out to the city: can we create meaningful dialogues with cities around public spaces by using playful pieces as conversation pieces? In addition, it is a label to package and resell these commissioned works and get the artists to be seen elsewhere.

Theorist of play and games Roger Caillois distinguishes between two play attitudes. *Paidia* refers to diversion, turbulence, free improvisation, carefree gaiety and laughter, spontaneous, impulsive, joyous, uncontrolled fantasy. *Ludus* disciplines and enriches *paidia*, since it is absorbing, rule-governed, for its own sake and amusement, and involves skill and mastery (Caillois 2001: 27-35). The former is usually translated into English as *play,* and the second equaled to *game*, although for Caillois they refer to states of mind. While there is still much discussion around definitions, most agree that games tend to more characterized by rules and by often quite a serious way of playing, whereas play is freer, joyful and done for its own sake (*autotelic*). Many of the projects done at the PMS are playful rather than games. This is likely due to the fact that many of the researchers and practitioners at the PMS have a background in media like theater, narrative, and (film) documentary. Each of these media has a long-running history of playfulness. As DCRC Director Mandy Rose explains, in emergent forms of documentary storytelling the lines between narrative and play become blurred by what theorist John Grierson already in 1926 called a "creative treatment of actuality". At the same time these creative forms of storytelling have tremendous civic potential when they are tied to public discourse and citizenship. The current playable city agenda thus hails from this creative use of media for civic purposes. Hilary O'Shaughnessy says that play is more open-ended than more narrow and bounded games. Play is more important for the "playable city" idea because it also encompasses other disciplines. Games are more designed. Play is also designed but also emerges from people's contributions. Play is embodied.

What became clear from the interviews is that the term *playable city* creates coherence between numerous pervasive media projects that take place in the urban domain and that involve people's active participation. The term thus connects three parallel developments. First, the *playable city* refers to the interactive qualities, affordances and cultures of various digital media technologies. Many of the artists, makers and researchers point out how digital technologies allow for more interactive ways of storytelling and staging. Moreover, as Jon Dovey points out, playfulness is an intrinsic part of how the people at the PMS work through

tinkering and hacking, iterative testing, and energetically hopscotching around with an open and inquisitive attitude. Second, the *playable city* refers to civic participation. Many people want to become more actively involved in shaping the world around them as "professional amateurs" and "hackers". Citizen engagement oftentimes occurs through playful artistic urban interventions. In the words of Mandy Rose, the *playable city* expresses an ethos of developing projects that engage citizens in imagining and co-creating their city, and that have a societal relevance. Third, and perhaps as of yet somewhat less developed as a theoretical underpinning, the *playable city* sets a specific type of political frame around urban life and planning in terms of what Jon Dovey calls the "urban commons". The idea of the commons refers to a shared public resource, like land or water, which has to be responsibly managed by a collective that should safeguard this resource from violation by individual gain (see Hardin 1968, Ostrom 1990).[6] Elaborating on this a bit more is one of the contributions that this STSM wishes to make to the host organization (see 3.1.6).

The *playable city* rests on the idea that cities are not only about delivering services efficiently to individuals, but also or even primarily about interactions. The playable city refers to a variety of interactions that shape urban life: interacting with places, with other people, with technologies, and with one's own experiences of the city. Hilary O'Shaughnessy points to this relational understanding of city life through the lens of play, saying that: "street games are a great way to experience a city and get to know the people who live there. Games are all about connecting with other people. You are surrounded by people with the same goal as you and very quickly find yourself talking to strangers and getting to know people" [7].

The *playable city* is an idea that is currently being trialed in other places around the world, like Recife in Brazil and Lagos, Nigeria. Here too exist issues of citizen participation. But in Nigeria and Brazil people need instant solutions, so play projects focus on specific urban issues. In Bristol play is more about connecting people to each other. The *playable city* thus is universal in principle and locally specific in practice.

4.1.3. What according to these stakeholders and individuals are the particular strengths and possible weaknesses of play and games for a people-centered view of the smart city?

The potentials of play to engage people with their city can be identified on multiple levels. First, play can get new audiences involved with what's going on in their cities. Many respondents allude to this. Hilary O'Shaughnessy and Tom Melamed say that the playable city is about getting more voices heard and opening up conversations. For Jess Linington inclusivity is key. She says that through play and games communities from other parts of the city can get involved, especially women. Ben Gwalchmai says he designs "democratizing work" that allows rural populations and older generations to have their voice heard instead of the cultural elites. Play thus can be way to involve people who ordinarily do not have a voice in decision-making concerning their city.

Second, play can get people involved with their city in new roles. This often begins by a non-enforced transgression. The 2014 Playable City Award winner Shadowing for instance challenged people to dance on the streets. This is normally considered weird. So in a sense it is a radical and transgressing step, O'Shaughnessy says, because it is a small intervention and because it is optional. You don't have to, you may. Game designer Tom Melamed too points to this transgressive element of play. For him the design challenge is "how can I look totally stupid without feeling embarrassed?". A game context can act as a license: "Because you give them permission, people like being silly". From there, you can think about designing different roles for citizens: not just as voters or protesters, but also as makers and creators, as players of "pro-am" (professional-amateur) roles.[8]

Third, play allows people to have new experiences of their city that remain even long after the play or game is over. Rik Lander explains that in his playful work, which isn't so much game-like as theatrical and narrative, the dramatic experience of the environment is key. For example, his project *The Memory Dealer* (2013, http://thememorydealer.co.uk) is a headphone experience in which memories associated to places in the city acted as gateways to becoming someone else. Landers recounts that he wanted to steer away from the adrenaline-fuelled "chase mode" that is so common in urban games, and actually quite easy to achieve by evoking a sense of paranoia. Instead, he wanted *The Memory Dealer* to be like structured theater, giving participants a sense of agency and the ability to create their own narratives, instead of losing control. Players see themselves through new eyes, as a third person, oneself as another. You can then discuss questions bout social

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[6] For a more recent application of these ideas to the urban context, including the role of digital media technologies, see (de Lange and de Waal 2012a, 2013)

[7] Source: http://gronya.com/2014/03/09/interview-with-hilary-oshaughnessy/.

[8] This is a term coined by Leadbeater & Miller (Leadbeater and Miller 2004).

behavior with them. Jon Dovey remembers playing *2.8 Hours*: "Now I can't go to these places anymore without thinking about the game. You remap your image of the city. This gives you a sense of ownership". Tom Melamed, who played the same game, recalls "My perception of the place I played in - a shopping mall - had changed for good. I had seen a different side of the place, a secret. The game unveiled a secret about my own relationship to that place and instilled new memories. I had acquired a new smell of the place". Ben Gwalchmai also expresses this idea of play instilling magic and mystery in everyday urban places. A very powerful new feeling of ownership can arise from playing somewhere. In the words of Tom Abba, "having a playful experience makes people feel its their city, not the city of the designers".

Fourth, play activities can lead to new outcomes: ideas, events, services. This usually is a central aspect of so-called applied games, games that are aimed at creative problem solving. As said above, that is not the type of games made by PMS. However, user content has been part of some playful experiences, like *These Pages Fall Like Ash* (http://wearecircumstance.com/these-pages-fall-like-ash.html). Tom Abba tells that people started to send poetry and photographs, trying to capture the liminal moments that they experienced listening to the unfolding of a narrative of loss over a period of 15 days at 15 locations.

Fifth, play helps to forge social bonds and collectives. People who normally do not cooperate may play together. Through playing trust can be built. In the game *Sitting Ducks* by Tom Melamed a group of players had to race dressed-up floating ducks across a pond outdoors using water pistols. A careful trajectory led a game master who looked even sillier than the players, in which people had to name their ducks and then played together, allowed enough trust to be forged for individuals to drop their guards and behave silly among strangers. The usually fragile bonds of solidarity between urban strangers may be (temporarily) strengthened by play. For Vanessa Bellaar Spruijt, a key element of play is to allow for things to go into a different direction than expected. That's when relations are starting to form and shared space emerge. Playing together means community building.

Sixth, allowing a learning experience in players that taps into their sense of intelligence and self-worth. Play is about setting challenges that are neither too difficult nor too easy. Rik Landers, Tom Abba and Tom Melamed each in their own way point out that play helps to cope with public embarrassment and allows players to feel smart about themselves. Play thus helps to create the proper mood, attitude, and sense of self-evaluation that allows people to feel that they indeed can shape their living circumstances. There is, then, an intriguing connection in play between behaving silly and feeling smart. However stupid the activity they do, people need to feel smart at the end. Melamed says you can do so by giving people retries. Repeatability is a good tactic to acquire the feeling of being smart. People try out, fail, reflect, play again, feel better and smart. Good games offer the opportunity to get better. Melamed gives the example of a challenge to throw a whole sheet of paper in a bin. The insight at some point may be that you can make a ball out of it, and then you feel better. A sense of achievement through delayed learning and insights is crucial in feeling smart. Designing a learning curve and trajectory can stimulate people's sense of agency to change outcomes. This runs counter to the rhetoric of real-time and instantaneity that is implicated in the word "smart" in many smart city discourses (de Lange forthcoming).

Seventh, it offers a design agenda for urban space based on a different politics and ethics. Today in many cities - especially in the US and UK - urban public spaces are used in highly utilitarian ways. Any loitering is suspect. This is particularly visible in so-called privately owned public spaces (POPS). Playing someplace for no other reason than to play becomes a political statement, Hilary O'Shaughnessy asserts. It is a way to open up urban spaces as truly public. Tom Abba too says he wants to challenge the public - private distinction through his work. He never asks for permission for his work; after all it is *public* space. Playability then becomes a hallmark for designing urban public spaces that are truly open to people to engage in non-utilitarian forms of behavior. For Jon Dovey, the lens of playability takes city making as co-creation and as an exchange between inner and outer life. Claire Reddington the playable city also means a shift in mentality among policy makers. The combination of a good customer service and good HCI like in playful experiences equals delivering good services to people. The *playable city* then calls for new processes and products in city making.

For reflections on the possible weaknesses of play and the city, see 3.2.2.

4.1.4. What is the status of their ideas and practices, e.g. are they incipient ideas, prototypes, or already tested and evaluated?

The *playable city* research and design agenda is still emergent. According to Jon Dovey it is difficult to find a shared vocabulary. The majority of *playable city* initiatives are localized, small interventions. So far, says Dovey,

they are an interventionist critique of systems rather than a programmatic approach. "The hope is that maybe in a magical way it will give people transformative agency". The majority of respondents agree that this is a quite plausible - and certainly attractive - yet by and large untested assumption. For Dovey it is a compelling story. Many people feel alienation and a lack of ownership of their city. The *playable city* is an alternative to the smart city where we're told what to do.

The Playable City Award has resulted in several projects (http://www.watershed.co.uk/playablecity/). The first Playable City Award in 2013 was won by design and research studio PAN, Tom Armitage and Gyorgyi Galik for *Hello Lamp Post* (http://www.watershed.co.uk/playablecity/winner/2013). Hello Lamp Post invited the people of Bristol to communicate with street furniture in playful ways and explore hidden layers of information beneath the city surface. Winner of Watershed's 2014 Playable City Award was *Shadowing* by Jonathan Chomko and Matthew Rosier (http://www.watershed.co.uk/pmstudio/project/shadowing). This project gave memory to Bristol's city lights, enabling them to record and play back the shadows of those who passed underneath. The 3rd round of the Playable City Awards has closed on April 7 2015.

The issue of "impact" of digital art projects has been a recurring theme in the conversations. The *Pervasive Media Cookbook* for example, was a knowledge transfer project by Jon Dovey and colleagues, to understand and share initiatives around pervasive media projects, and explicitly tried to have impact. During the Playable City event in 2014, the academic track tried to assess the impact of playful interventions such as the platform for street children's play http://playingout.net. In the end, what matters is the "triple bottom line" of research: social, cultural and economic impact.

4.1.5. Which types of games and kinds of play are being employed towards the stated goals of the "playable" or "playful city"? Can a provisional yet productive typology be made?

As already mentioned, the majority of projects are playful rather than true games. We can make several typologies. One possible typology is based on the media-specific origins and influences of the playful interventions, which include:
- Storytelling and narrative projects
- Theater play & performance art
- Street games
- Cinematographic experiences

A different typology can be made according to the primary gameplay principle, based on Roger Caillois' well-known identification of four game types (Caillois 2001):
- Simulation, role playing (*mimicry*)
- challenge and competition (*agon*)
- chance and luck (*alea*)
- vertigo (*ilinx*)

Another typology can be based on the issue or application of games:
- Interventions that forge relationships between player and urban environment.
- Interventions that forge relations between players themselves.
- Interventions that forge a connection between players and some concrete urban issue.
- Interventions that instill a renewed sense of self and are transformative.

Yet another distinction can be made based on who is playing and who have the agency to act:
- Professionals (urban planners, policy makers, governance, businesses, etc.).
- Citizens.
- Not for profit organizations.

These typologies should be seen as malleable structuring devices, not hard set categories. Such typologies could provide creatives and researchers, but also policy makers, with a better grasp of the width and reach of play to address urban issues. In reality however, we often see a considerable overlap between these types. They are not cookie cutter models for playful interventions.

4.1.6. How can key concepts like "playability" and "playfulness" be further defined and operationalized in relation to participatory citizenship (what are their salient differences if any)?

From the interviews no clear views on the differences between *playable city* and *playful city* have emerged. Hilary O'Shaughnessy for instance feels that *playfulness* is a superimposed service while playability is about opening up room for action. She feels that *playable* is more interactive than *playful*, which is more frivolous. For Ben Gwalchmai the *playable city* is one you can affect. Playable refers to distribution of resources in a city. A playful city is one in which things get mixed up but return to normalcy. Playful is slower in affecting things.

We may identify five elements that set a political frame around *playable city* and participatory citizenship. This model connects the insights from the STSM to earlier work on collective "ownership" (de Lange and de Waal 2012a, b, 2013). The key challenge is *how can collectives of people be engaged around a shared issue of concern and contribute respective resources in acting upon this issue?* This question of ownership can be broken down into various components:

i. Defining a common issue
ii. Organizing new networked publics
iii. Addressing and pooling resources
iv. Creating commitment
v. Provide a horizon for action

i. Ownership is based on the extent to which citizens feel responsible for matters of mutual interest, and can appropriate them. These may be complex and collective issues (so-called "wicked problems", (see Rittel and Webber 1973) where several parties are involved, such as vacant public property, public health, redevelopment of an area, environmental quality, or shrinking cities. Short- and long-term interests of various parties often differ, making it difficult to find a common definition of the problem, let alone a solution everyone feels comfortable with. In addition, a single intervention again may have unpredictable consequences, causing the baseline to shift. *Question: What exactly is the problem that all parties can agree upon?* Games and play can be great ways to evoke debates around such shared issues of concern in a safe space, allowing other voices to be heard.

ii. "Networked publics" (Varnelis 2008) are groups of people who are not organized around local places and situations, or belong to the same social category, but who unite around specific shared interests with the help of new media and derive part of their identity from this. Stakeholders need not necessarily consist of traditional local neighborhood communities. They can also be people with an interest in the issue who connect via networks rather than locally. Crucially, in these networked publics there may be dissent and still a shared wish to collaborate. *Question: How do you ensure that stakeholders unite as a group around an issue?* Games and play as we have seen create communities and allow people to form teams and collectives, and collaborate.

iii. The idea of ownership as a non-exclusive proprietorship but an inclusive shared stewardship means that individual stakeholders contribute to the collective. When many people pooling their resources can lead to a scale that is interesting. An example is the sharing of private property that most of the time is unused, like cars and tools (a phenomenon called "collaborative consumption"). What can these resources be? Besides money, valuable resources may include time, work, knowledge, social network, tools, skills, materials, ideas, leadership, and so on. These are all different forms of capital (economic, social, cultural, etc.) that complement each other. It is important that others are able to see what everyone contributes to the collective, to avoid the "free rider" problem of people taking but not giving. Also of importance is a sustainable business model in which stakeholders get a return on investment of their resources. *Question: How can reciprocity develop between parties based on sharing?* Play and games are great ways to test strategies and tactics for sharing, allowing trust between team members to arise, and design benefits or rewards for cooperation instead of the individual win.

iv. People often need an initial incentive to relate to an issue, and feel ownership. First they need to know about it (communication) and second, a spark is required to put them in motion (activation). An issue here is how to bring about a sustained commitment. *Question: What motivates people to connect to somewhere and participate?* Games and play can be good media for creating buzz around an issue because they help people to get out of their everyday comfort zone, experience pleasure and positive feelings, and invite to repeat an action (replayability).

v. Complex issues are often abstract and sometimes seem insurmountable. The art is to offer a horizon for action that gives stakeholders the feeling that their commitment and actions matter. This means that interventions often have a local and situation-specific character. That is the scale on which people can act. Stakeholders each play their own role in a process of co-creation. *Question: What room for action do stakeholders have?* Rapid feedback loops that we know from games and play are important: people need to see quick results of their actions so they know there is something put in motion. For this prototyping is ideal: you can immediately see initial results, test together with publics, and adjust the design.

4.1.7. How do "playable city" and "playful city" relate to similar terms, particularly those that emphasize some form of active smart citizenship such as the "hackable city"?

There are close similarities and parallels between various people-centric alternatives for the smart city. Among these is the notion of the *hackable city*. The main idea of *hackable city* is that civic engagement in city making can be figured as a form of "city hacking". A *hackable city* - like a *playable city* - is a place that allows citizens to envision themselves as social change agents, and to become shapers of their own environments and experiences. City hackers use digital tools and organizing principles to own ("hack") one's environment, infrastructure or resources not just for personal gain but also from the perspective of the public interest.

City hacking consists of several dimensions. First it is a set of *principles*, such as sharing information, decentralized organization, meritocracy, and using the computer as an agent of change (Levy 2010: 29-34). Second, hacking is an *ethic*, an attitude of finding intrinsic pleasure in tinkering, balancing pragmatic problem solving and curiosity-driven problem seeking, and considering messiness as a potential strength instead of a threat (Himanen 2001). Hacking also is a *praxis*, a way of doing things by passionately engaging in an activity as "intrinsically interesting, inspiring, and joyous" (Himanen 2001: 6). "Playfully doing something difficult, whether useful or not, that is hacking".[9] Hacking is a way to *organize creativity*. It serves to scratch a very personal itch (I don't like the way something works so I'll modify it according to my wishes) and has a more social side to it (I've come up with something clever and this could benefit others too). This social side can be competitive, to impress and gain respect among peers through cleverness (for instance Levy 2010: 12), and at the same time involves a communal attitude of openness, sharing-alike and community building (Himanen 2001: 59, Levy 2010: 46, Hippel 2005: 97-98). Being a hacker entails a kind of *subjectivity* and refers to an individual and group *identity*. Hackers tend to have a playful and curious world outlook. They want to know how stuff works by tinkering with it; not as engineer who designs according to a careful preconceived plan or blueprint but in an improvising go-along way. Being hacker entails a slightly subversive attitude. Hackers do not accept defaults ("as is") but imaginatively enquire the space of potential ("what if"). This view of hacking as involving a form of subjectivity stresses how important it is to understand contemporary modes city making as deeply engrained in people's self-understanding and self-evaluation. To study "hackable city making" therefore means to study people's mediated way of being in the world. The city hacker is both a *homo faber* and a *homo ludens*. A major advantage of the *playable city* seems that it can be intuitively grasped, and stirs the imagination. The hackable city gives rise to questions, especially when hacking is mistaken for computer crimes. A disadvantage is that it can be easily dismissed as "just play" and therefore not to be taken really seriously.

4.2 Reflections, challenges, conclusion

4.2.1 Reflections

Summing up the findings, we see that the *playable city* is composed of multiple elements, and understood on various levels. First, the city itself is seen as a canvas for play. This can be either during location-specific interventions or in interventions that can be played everywhere and anytime. Second, the playable city figures people as playful, challenging them to do silly things and yet feel smart by discovering hidden layers and creating new insights. Play allows people to act, it is seen as democratizing. There is a tension here between the play maker as the main curator of experiences versus people's own creative play as a way of city making. Third, technologies can be playful or used in playful ways. This is the realm of participatory tech culture, tinkering and

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testing, where we go from interactivity to configuration, as Jon Dovey says. Here, a tension exists between playful technologies as *autotelic* (valuable and entertaining in itself) versus play as goal-oriented, yielding tangible output and results. Playful technologies, like hackable technologies, lead us to ask how we can configure and take command of our spaces? Fourth, there are playful cultural events in outdoors city spaces. A key tension that many respondents mention is the inherent tension between the "eventness" of most playful interventions and the long-lasting spin-off effects after the game or play is over. How to move from one-off events to structural outcomes? Fifth, and as of yet not really materialized in Bristol, the playable city can also pertain to institutional domains of city planning and policy.

Based on these findings, we argue that there are at least two good reasons why the *playable city* is a powerful new citizen-centric agenda for the smart city. The *playable city* allows "smartness" to be truly operationalized, and it provides a far more intricate relational view of "cityness". As for the first, the *playable city* underlines that "smartness" does not reside in technologies, systems or institutions but first and foremost in people. Play is a learning tool to leverage citizen creativity that allows people to feel smart about something and themselves in a myriad of ways at least as varied as the range of play types (competition, pretense, chance, vertigo). Second, the playable city provides a compelling view of "cityness" that is fundamentally relational. It understands urban life to be about engaging with one's environment, with other people, and with oneself. It stimulates and celebrates serendipity, messiness, publicness, delay and recurrence, and the importance of meeting strangers; all the things that so-called "smart technologies" all too often want to efface.

Let's have a closer look at how play helps to understand "smartness". Elsewhere I have noted that historical forms of play in the city are connected to various forms of civic smartness (the following section is based on de Lange 2015). In various ways, play and games have been part and parcel of urban theory and practices since ancient times (see alsode Lange 2009). From Roman "bread and games" (*panem et circenses*) to the present "experience economy" (Pine and Gilmore 1999), cities have long been conceived as centers of entertainment and fun. The city in this view is the locus for actual playful behavior and activities, and for enjoying games or other forms of entertainment. Second, with the rise of the modern metropolis, people's behaviors and attitudes in public space have come to be understood in playful terms through the use of theatrical metaphors. Theorists, such as Simmel, Goffman and Lofland, argued that urbanites engage in continuous role-playing and information games to deal with life among strangers who meet in highly segmented roles (Goffman 1959, Lofland 1973, Simmel 1997, Wirth 1938). Third, a historical strand of "ludic architecture" connects play and games to the physical form of the city. After the Second World War, Dutch architect Aldo van Eyck dotted the ruined cityscapes in the Netherlands with outdoor play spaces as a way to counter top-down functionalist planning policies and open up room for people's own creativity (Oudenampsen 2013). If this historical line connects play to education, civilization and *Bildung* ideals, a related yet distinct fourth strand as about play as downright subversive. The Situationists criticized mass consumer society and sought to reclaim the right to the city through subversive counter-play and everyday spatial tactics, such as *dérive* and *detournement* (De Certeau 1984, Debord 1955, 1958, 2005). Recent approaches in the same tradition have focused on subcultural or countercultural urban practices, such as skateboarding or parkours (Borden 2001, Mould 2009). Fifth, while not strictly playful, key notions from the world of informatics, such as networks, simulation, feedback loops and virtual reality, have come to profoundly influence architectural theory and practice as new ways to imagine, represent and design cities with digital tools (see for instance Picon 2008, Wigley 2001). Cybernetics and systems theory have been very influential ways of understanding the city as emergent rule-based systems, which can be "played" through creative recombinations and generative, algorithmic, responsive or parametric design (for example Beesley and Khan 2009, Berry 1964). Finally, in late capitalism, play has been absorbed by work itself, through the conflation of labor and leisure time and the concomitant ethics of the creative class, hacker ethic, etc. (Florida 2004, Fortunati 2015, Himanen 2001, Rifkin 2000, Scholz 2013).

From this extremely condensed overview, several insights can be distilled. Historical conceptions of the *playable* or *playful city* have existed on multiple levels and in various forms, across spatial, social and mental spheres of urban life. These strands provide clear and quite distinctive conceptions of "smartness": didactic and self-empowering in Van Eyck's urban playgrounds, shrewd subversiveness in Situationist playful tactics, cleverness and self-confidence in playing information games in role-playing, and of almost demiurgic ambition in parametric design. Note that in the other historical strands sketched above play is equated with mere entertainment and implicitly taken as childish, stupefying or opium for the masses. Another point is that in early modern times the realms of play and everyday life became separated. More recently, they have been (again) understood as inextricably intertwined. This has been largely driven by the advent of digital technologies in the urban realm and the presumed link to creativity and smartness.

4.2.2 Challenges and recommendations

Potential threats loom too. At technical level Tom Melamed observes two big risks in using hi-tech for urban interventions, apart from the unavoidable fact that gear tends to fail. First, some people become paralyzed by the fear of breaking the technology. The solution he uses is to give them a real map to play. A second risk is that the technology itself becomes a distraction rather than an interface. Melamed thinks that headphones are better interfaces to cities than screens. They are less immersive, and open up the environment. "Through headphones you can give people a tap on the shoulders instead of engrossing them in a screen, and this brings experiences more to life". Jon Dovey points to the unavoidable issues of privacy and surveillance, and algorithmic decision making in using digital tech. Moreover, at the level of operationalization, he asserts we need ethics about co-creation. Dovey: "Is the deal transparent? What am I asking you to do as a player, what are we both/all getting out of it"? In the current "economy of free" play can be exploitative, freely tapping into people's creative resources under the cloak of fun. Jess Linington questions the fine line between "making things look good" versus achieving "real impact". How do you deal with maintenance and continuation after the event?

Many respondents think that collaborations between academics, artists, makers and technicians in working on the *playable city* is both a strength and a potential weakness. For Tom Abba, there is no issue. "We see the world differently. Duncan [Speakman - his partner] is an artist, he brings in an artistic approach, communicating an idea, and a way of engaging. I am a writer and academic. I look for new knowledge, repeatability, understanding what makes it work, what are we doing?" Yet problems may arise according to Linington when the creative flow of doing design is interrupted by academics who keep raising problems. Sometimes this can be productive, but sometimes it isn't.

Other challenges for the *playable city* agenda include the *validation* of the effectiveness of playful interventions. How do you measure and assess impact? *Scalability* is an issue. In the words of Claire Reddington, how do you get "beyond the hipster"? That is, how can you attract other people to participate in these playful interventions? *Context* matters: are you designing games that are location-specific or universally applicable, true plug and play? Tom Abba for instance explained they made the move from location-specific narratives to letting people choose their own locations in an attempt to create somewhat more generic and scalable uses. At the *policy* level, Vanessa Bellaar Spruijt observes that municipalities do not understand the value of play. They see it as subversive and derailing the normal use of city space, instead of a meaningful contribution to urban life. There is also a tension in its *business model*, between on the one hand trying to sell the notion to municipalities and on the other hand nurturing an open source ethics of sharing freely, Hilary O'Shaughnessy notes. In fact, one of the weaker and under-explored aspects of this STSM research itself has been a lack of tracing financial flows: who pays for what? Finally, up to now *engaging urban planning professionals* has been largely ignored in *playable city* efforts, some respondents note. How can the worlds of media creatives, policy makers and urban designers be connected more? To expand a bit on this last point, in a recent publication Miguel Sicart attempts to define play in a way that is relevant to the playable city agenda (Sicart 2014). Among others, Sicart highlights a tension between play as creating order versus play as disruptive and chaotic (Sicart 2014). Play as order involves learning, achievement, goals, solving issues, creation, etc. Play as disorderly means carnavalesque disruption, subversion, out of the ordinary behavior, protest, destroying, chaos, etc. This tension is an interesting one for thinking about the making of cities and urban culture. The chaotic carnavalesque attitude of ridicule and de(con)struction opens up alternative perspectives of the city: "it could be different". The structured and ordered mode of learning and problem-solving then forwards play as a solution-space, providing possible answers to thorny questions about the future of our cities. In my view, what happens in Bristol up to now has mostly been about the first leg and may wish to attempt to shift the weight to the second as well.

4.2.3 Conclusion

Taken together there are good reasons why the *playable city* is a fertile and promising alternative narrative and potential policy agenda for the smart city. Urban design and governance is no longer the exclusive domain of architects and planners, or policy makers and municipalities. Game makers, media artists, and app developers too have become makers of today's cities. Cities face ever more complex issues. This requires smart strategies to tap into the pool of citizen wisdom and participation. Games and play seem great ways to do so. However this requires institutions to relinquish control, accept uncertain and ambiguous outcomes, and to allow possible failure. Games are composed of a set of constitutive rules, a material setting, and are actualized through the embodied activities of the players. This is comparable to what architects and planners will recognize as program,

design and use, but with a twist. Game designers create rules and settings. Yet the game is actualized by people who are actually playing, executing the "code" so to say. Players are not merely end-users. They are active participants. They often engage in meta-play when they subvert the original rules, hack, cheat, exchange game tips, create derivatives, and tell stories about their own play. If we accept the idea of Dutch historian Johan Huizinga that play is not merely part of culture but that culture arises from play (Huizinga 1955), then the variety of urban play and games experiments will eventually give rise to a new planning culture of the media city with a central role for citizens.

(5) Follow-ups – describe future collaboration with host institution and foreseen publications or papers for conferences/congresses resulting or to result from the STSM (if applicable)

Potential for the future includes expanding this *playable city* network into numerous directions. First is the establishment of a knowledge network that connects several universities and institutions. Second, actual events and collaborations may arise from this STSM, like a playable city event at some point. Third, plans have been made to apply for funds together, notably EU Horizon2020 grants.

(6)   Personnel Benefit and mutual benefits for the Home and Host institutions

The STSM will strengthen the relationship between Utrecht University and the two universities in Bristol: the University of the West of England and the University of Bristol. For me personally, the STSM has further improved my understanding of play and new media in relation to the city (*playable city* discourse), which is a theme I have been interested in and working on for quite some time. For the host institution, it is hoped that the STSM brings together some of the knowledge and issues that are implicit, and helps to further proceed with the *playable city* agenda.

(7)   Other comments (if any)

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IMPORTANT: Please also attach a letter from the host that confirms the successful execution of the STSM and approves this report. Alternatively, you can add the following paragraph to the report and ask your host to sign it (you may have to modify the text depending on the details of your mission).

Confirmation of the host of the successful execution of the STSM

We confirm that [YOUR NAME] from [YOUR INSTITUTION] worked in our laboratories at [HOST INSTITUTION] from [DATE] to [DATE].

The visit has been successful and the results are described in this report, which I confirm.

[NAME AND SIGNATURE OF THE HOST]