DIGITAL AMSTERDAM:

Digital Art and Public Space in Amsterdam

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This project explores the potential for employing pervasive digital networks to deepen citizen engagement in the organization and utilization of public space. Digital networks such as Australia¹s NBN are transforming the relation between communication, social agency and place. Our work focuses on the formative role of mediating factors suchas professional and institutional practices, policy settings and cultural dispositions, which translate this new technological capacity into social and political outcomes. By conducting extensive fieldwork in Australia, Europe and Asia, our aim is to produce a grounded theory of the conditions under which more sustainable forms of participatory public space can be facilitated in networked cities.

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1. Introduction: Digital art and public space in Amsterdam

In this report we explore digital art interventions in public space in Amsterdam as part of the 'participatory public space' project lead by the University of Melbourne. We focus specifically on artistic interventions in public space, rather than on the more general ways in which public space is transformed by digital technologies: it is in these artistic interventions that the most radical innovations take place. This becomes the case, for instance, in augmented reality interventions—a technique in which smartphones render visible interventions in the virtual world. Of particular interest is the way these interventions redefine public space and participation.

Despite not having systematically developed an overview of the availability of Wi-Fi-networks in the city, nor in specific response to these interventions, it is understood that most cultural venues in Amsterdam offer free Wi-Fi in their buildings.[1] Moreover, Westergasfabriek—the cultural quarter of the western area of the city—has made high speed Wi-Fi freely available, covering almost the entire park area in which it is located. During the Amsterdam Light Festival, Wi-Fi was made locally available for free,[2] with the same applying to the Uitmarkt: the annual opening of the cultural season attracting close to half a million visitors. As such, free Wi-Fi-networks are relatively widespread across cultural venues and event locations within Amsterdam.

In this report we will summarise recent art initiatives that use digital technologies and which take place in public spaces, or that have a function to be used in public space in some capacity. Subsequently we will discuss the main issues related to these interventions as found in interviews with organisers and experts in the field.

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1 For instance museums like Stedelijk Museum, Rijksmuseum, Mediamatic, and Eye Film Institute all have free Wi-Fi, as do public libraries, railway stations and a large proportion of cafés and restaurants. The annual Uitmarkt has offered free Wi-Fi since 2011: http://www.alcadis.nl/wp-content/uploads/2013/11/Business-Case-Ruckus-Wireless-Uitmarkt.pdf

2 http://www.amsterdamlightfestival.com/en/programma/2014-2015/illuminade/volte/ and https://www.canal.nl/en/water-colors-cruise-1

2. An inventory of digital art/digital initiatives in public space

2.1 Art funding in Amsterdam and embedding media art/digital art/public art institutionally

Digital public art initiatives in Amsterdam are embedded in a number of funding institutions. The Amsterdam Art Fund (AFK) subsidises art projects. Their subsidies are usually relatively small (below ten thousand euros) but can also be larger for bigger projects such as the Amsterdam Light Festival, which received seventy thousand euros in 2013. Besides the Amsterdam Art Fund, the municipal government also has a very sizeable budget for the arts. This budget is set for a period of four years, which gives art groups and institutions structural funding for the duration of this period. Groups and institutions are eligible to apply for funding, however applications are not evaluated by the municipality: this task is delegated to the Amsterdam Arts Council who evaluate applications and advise on funding. At present there are about one hundred and fifty art groups and institutions funded structurally for the period 2013-2016 by an annual sum of roughly eighty-five million euros. These groups and institutions range from very small theater groups and a literary award to institutions such as the Stedelijk Museum and The Amsterdam Philharmonic.

Next to these funding sources, on a national level there is the *Stimuleringsfonds Creatieve Industrie* [Fund for the Creative Industry] which subsidises projects related to digital art in public spaces, as well as *the Mondriaan Fund* which subsidises visual art projects. Moreover a range of philanthropic funds have been set up to fund art projects, as have commercial partners.

In Amsterdam, the city districts—or boroughs—play a crucial role both in funding and facilitating art in public space. Important to note is that there is no municipal policy on art in public space, rather this is left to the city districts to manage on a case-by-case basis. There have historically been a number of institutions interested in digital art in public space, however the financial crisis of 2008 and the subsequent major arts funding cuts of 2011 have signaled an end for some of these institutions.

Still in existence are De Waag Society, Pakhuis de Zwijger and Mediamatic. De Waag Society is especially interested in digital innovation and its democratic potential. Pakhuis de Zwijger is interested in the interplay between creative practices and urban renewal, offering a platform for bottom-up and local initiatives. Mediamatic is the most art-aligned institution of the three, positioning itself as an art space with an interest in technological, ecological and social innovation.

Up until recently, there were a number of institutions that focused primarily on digital art. NimK was an important player regarding new media art, exhibiting high-brow art projects alongside a substantial collection. SKOR was a foundation for art in public space, active from 1999 to 2012 after which time it did not receive funding. Virtueel Platform was an organisation that developed programs on e-culture and art. It has now been absorbed into Het Nieuwe Instituut, also due to funding cuts after 2012. Virtual Museum Zuidas was an organisation that aimed to create art around the newly built financial center in the south of Amsterdam, which included an urban screen (Contemporary Art Screen ZuidAs) as well as an art space. The demise of Virtual Museum Zuidas and its urban screen are an interesting example of the difficulties public art initiatives face in developing themselves in public spaces. One of our respondents involved in this project explained that the development agency of the Zuidas was divided about their projects from the start. On the one hand they were supportive of art in public spaces, while on the other hand they failed in their commitment to publicise and redesign the space. For instance, benches in the square with the urban screen were placed in such a way that people were unable to see the entire screen. Also, due to noise complaints, the sound of the screen was very soon turned off, with people having to call a number to hear the sound on their phones. Other large permanent interventions—such as a fountain and a square designed by the artist Jennifer Tee[3]—were cancelled after the initial commission and development. This lack of commitment combined with the financial crisis resulted in the end of this project. The screen is now used mostly for advertising.[4]

Fig. 1: Urban Screen at ZuidAs while active as art screen in 2009

Our respondent at the Amsterdam Art Fund reported that since the demise of the aforementioned organisations, the amount of applications for digital art projects (in and out of public spaces) has diminished to a handful a year. As such, it is important to note that both digital art and public art in Amsterdam are not embedded very strongly in the local arts sector, especially when compared to other comparably niche art forms such as site-specific theater.

An impulse for this type of work can be seen to come from organisations in the creative industry. As mentioned above, the *Stimuleringsfonds Creatieve Industrie* funds some of the projects this paper sets out to report. However, departments within the organisation (such as in architecture, graphic design and e-culture) are acting autonomously, meaning that digital innovations in the classic disciplines of architecture and design are not considered integral to their approach. Moreover, there is a sizeable community of app developers and independent coders in Amsterdam (albeit not as sizeable as for instance in Berlin). The American developer Mike Lee created an international community called Appsterdam, which holds frequent and informal meet-ups.[5] This initiative currently receives funding from various commercial partners in order to improve the climate for innovation in Amsterdam.

2.2 Types of interventions

A brief sketch of the Amsterdam arts sector allows us to present the different types of digital interventions found in public spaces in Amsterdam. Interventions have been collated relatively broadly in order to emphasise contrasting elements between each of them.

2.2.1 Augmented reality and virtual reality

In light of the goal to reconfigure public space and make new forms of participation possible, augmented reality seems to be a promising technique. In Amsterdam there has been one substantial initiative in this arena, which exists alongside other smaller ones. Although the festival was modest in terms of the funding it received, *Zo niet, dan toch*, organised by Sander Veenhof[6] and Klasien Van de Zandschulp, managed to put augmented reality art on the city's map.[7] This festival brought together app developers and artists who created augmented reality projects in Amsterdam North. On the day of September 7th 2013, the public could go to this city district and pick up a booklet at one of the information stands. With their smartphone they could visit up to twenty-six different augmented reality projects and experience them live. For instance, there was a virtual concert in the cultural venue Tolhuistuin where at a set time people could point their phone and put on a headset to hear a concert being played in the virtual world. Another project *Meet Your Stranger* was set at

3 http://www.jpjoost.dds.nl/?p=42

4 http://www.ngagemedia.nl/#!/adverteren/locaties/

5 http://appsterdam.rs/

6 http://sndrv.nl/

7 http://zonietdanto.ch/en/over-het-festival/

a specific location where participants would receive part of a dialogue, with someone else at the same location receiving the other part. In order to act out the entire dialogue, people had to find each other and work collaboratively.

Figure 2: Augmented reality project on sharks in 'het IJ' visible through the smart phone as part of Zo niet,dan toch.[8]

The festival received a modest amount of funding (approximately eight thousand euros) from a number of organisations described above, with ongoing funding not being secured for its second edition in 2014. Nevertheless, smaller projects in conjunction with the festival are still ongoing. For instance *Vondel lekt* is a route through Vondelpark—the most central park in the city—which makes the statues in the park 'speak'. In this work, an app 'uses' people in the park who have Bluetooth switched on in their phone. These personal devises become the broadcaster of poems, which are activated as soon as people walk by. By following the person, the user of the app can listen to the entire poem. Sander Veenhof is also experimenting with Google cardboard[9] and has made a database of all apps that can be used in public space with this material.

2.2.2. Apps & games

While the aforementioned projects come from the art world, app developers from the creative industries have developed a number of apps that intervene in public spaces. *Repudo* is an app that enables users to 'drop' an item on a specific location in the virtual world.[10] This object, once picked up by another user, then disappears from the map. This technology is currently being used for advertorial campaigns. *Raduga*, developed by Pink Pony Express, was an app that predicted where a rainbow would show up and was developed as a response to the visit of Vladimir Putin to the Netherlands.[11] *FloriadeRadar*, developed by Non-Fiction, is an app that tracks three social media websites and visualises what people are thinking: in this case, it is being used for certain urban renewal projects in a specific neighborhood in Amsterdam, functioning

as a feedback system for municipal policy developers. The development of the app was funded by local government as part of a larger bid to attract a large event to a particular district of the city. In this case, the developers did not win and the app was never implemented.[12]

Figure 3: What FloriadeRadar would have looked like if fully developed[13]

Play the City, a network for city design set up between Amsterdam and Istanbul by Ekim Tan, uses apps and games to help users reflect on the urban environment they are situated in.[14] Tan presented her work as part of an event on social art and design, a growing genre through which artistic methods and design processes are being used to solve social or business problems. Part of our fieldwork was attending this event.

Public space often plays a role in social design and art, as most projects concern the ways in which different groups use such spaces. Games and apps are created in order to establish what the social designers and artists refer to as 'social cohesion', 'social contact', 'identification' and 'pride'. We observed that these goals can lead to collaborative potential for government and commercial interests, for instance by making people identify with products that are manufactured by local entrepreneurs. Rather than intervening directly into physical public space, these games and apps blend the physical and virtual world in order to reconfigure the way people think of the urban spaces they occupy.

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8 http://zonietdanto.ch/wp/wp-content/uploads/uitkrant-512x298.png

9 http://outdoorvr.com/

10 http://www.repudo.com/

11 http://www.pinkponyexpress.nl/archive/?id=63

12 http://non-fiction.eu/projects/floriaderadar/

13 http://non-fiction.eu/wp-content/uploads/2012/07/Boris-van-Hoytema-7129-edit-1024x680.jpg

14 http://www.playthecity.nl

2.2.3 Light

Figure 4: An installation as part of the Amsterdam light festival[15]

Intervening in public space through light has become a major part of current public art projects in Amsterdam. The most important project is the Amsterdam Light Festival, subsidised by the Amsterdam Art Fund and private partners. This event hosts a large number of light sculptures in Amsterdam—particularly around the canals—to include boat tours as another vantage point from which to view the works. Fieldwork was conducted around the organisation and presentation of this festival. Firstly we found a respondent—a Russian architect who works throughout Europe on various projects—who was presenting work as part of the festival. He considered his contribution to the Amsterdam Light Festival to be an experiment: a detour from architecture into the world of art. He devised a plan to construct a dome made of discarded bicycle wheels, a reference to the city's preferred means of transport.

Once the artist considered submitting the plan, he contacted a member of our team—Boukje Cnossen—to ask for her help with the application. On writing the text to accompany the application, she noticed the form explicitly asking artists to reflect on the way viewers would experience or interact with the proposed work. The briefing also stated that the festival was looking for projects that refer to the innovative and creative character of cities. Since the city government in Amsterdam is a large stakeholder in the facilitation of the festival, we believe the emphasis that the festival puts on the positive aspects of city life is used as a marketing strategy.

After our respondent presented his work at the festival, we asked him about the collaboration with the organisation behind the event. He mentioned that the primary sponsor of the festival was a canal boat company, noticing that things were clearly being conducted in a commercial manner. For instance, the organisation obliged him to use part of his budget in order to hire specific lamps where he may have wanted to use

different ones. As another example, artists are not permitted to request a quote or view specifications of associated costs. This gave the artist the impression that the festival was less concerned with showcasing art in the best way possible, and more with securing commercial partnerships and attracting tourists.

On the other hand, the Amsterdam Light Festival also includes smaller high-brow forms of light art in two locations. These are *Staatslicht* and *Parklicht*. These events similarly show works of light art in public spaces but are much less interactive and, in the case of *Staatslicht*, contain mostly work using neon-light instead of LED. We discussed the difference between this type of art and the more interactive works with one of the organisers of *Staatslicht*, who remarked:

We don't really like the so-called interactive art...That starts with the term already: 'reactive' would be better. I mean, you have to press a number on your iPhone and the colour changes from red to green…how interactive is that, everything considered? (Organiser Staatslicht)

The organiser further commented that:

I find it a dubious development to be honest: in a few years people will be clapping and whistling in front of a Mondrian and will walk away disappointed if the squares do not change in color. That is no joke: I have seen it happen with a poetic and modest light artwork by Jan van Munster that someone said: 'It doesn't work!' (Organiser Staatslicht)

Figure 5: installation by Joris Strijbos included in Parklicht[16]

15 http://www.amsterdamlightfestival.com/-/media/8CD-73990D7024C589F9FA50724F81324.jpg

16 http://www.polderlicht.com/images/jorissite.jpg

On November 18, 2014 we conducted fieldwork along the route of The Amsterdam Light Festival. We started at the starting point around 7pm and moved on to the city hall where we received a booklet with information. We entered the walking route, which cuts across the eastern part of the city center known as the former Jewish area, where the city hall, a second-hand market, the Portuguese synagogue and Jewish Historic Museum are located. This area tends to be busy with locals and tourists all year round, hence it was difficult to see at first sight who was a participant in the festival and who was not. It is important to note also that people may have been attracted to the large and colourfully lit sculptures, despite an awareness of the festival.

We passed by various large sculptures that invited people to use a free Wi-Fi network carrying the name of the café close by. Although we noticed that not many people were interacting with the work through Wi-Fi, people seemed to be engaging in conversations with one another very easily. People were inquiring about the correct route and how far away the next sculpture was. The fact that it was a very cold winter's evening may have instigated a need for people to be sure they were walking in the right direction. In the courtyard of the Hermitage Museum—still very close to the city hall—we encountered a group of male, middle aged, white amateur photographers who had travelled from beyond the city to photograph the sculptures of the festival. When we spoke with them they mentioned they had no particular interest in sculpture or art, but were there due to an announcement the festival made about a competition in collaboration with Canon, to award the best photograph.

Some works seemed to invite interaction and conversation more than others. There was a sculpture that looked like a fire, sitting in the middle of the pavement of the Plantage Middenlaan. It was very small compared to the other works and looked very different, given that there were no LED or other lamps of different colours. Two people asked separate of one another whether we knew if the object was part of the festival. This fact is indicative of the way in which art is experienced or consumed in public spaces. Beyond the institutional framing provided by the museum or gallery, it is apparent that people need to know whether something is intended as art before they can relate to it as such.

The work that invoked the most interaction was in the middle of the Meester Visserplein, the roundabout in between the Portuguese Synagogue and the Hermitage Museum. On the pavement next to the roundabout, participants could direct various steering wheel-like objects pointing light beams at the various famous buildings. The work gave its operators clues as to which building they should point their light beam at. These clues consisted mostly of historic information. Various people could operate the work at the same time, with many of them calling upon the help of others to solve the puzzle they were confronted by. This caused other people to talk about their own personal relation to the building. An older woman mentioned that she had lived in this neighbourhood for many years, but had not been back since now. Others would refer to

their personal routes through the city. "Yes, I always cycle past there if I have to be at the city hall", someone had said.

The hours of 7 and 10 pm were spent on the route of the Amsterdam Light Festival, making various detours in order to see works from closer up (quite a few of the sculptures were placed in the middle of a canal). The behaviour of viewers and participants was observed primarily: people were taking pictures of one another in front of the sculptures but on no occasion did we see people using the Wi-Fi to interact with the work.

Apart from the Amsterdam Light Festival, light is increasingly en vogue among municipal and private stakeholders in Amsterdam. Recently, the high-profile designer and artist Daan Roosegaarden was invited to make a work for the central station, entitled *Rainbow Station*. Each day, an hour after sundown, a rainbow would appear on the side of the entire central station east wing.[17] In addition to this project, another— *Waiting for Buses and Birds*[18]—shows light sculptures projected onto the deck where people wait for their bus.
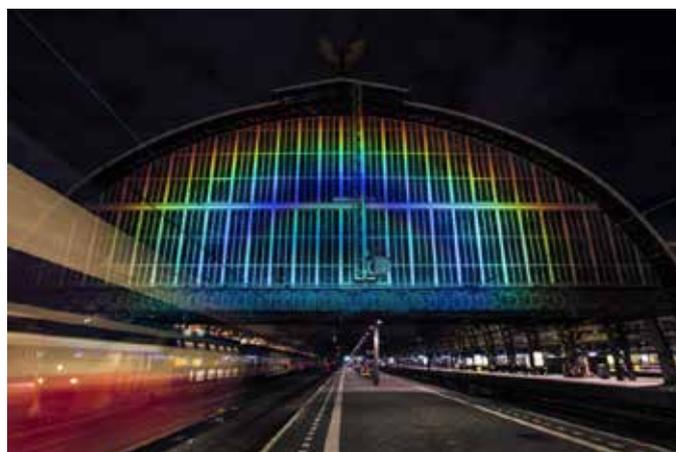

Figure 6: Rainbow Station by Studio Roosegaarde[19]

2.2.4 Beamers/screens

Beamers and urban screens have lost much of their importance in digital media use in public spaces due to the rise of the smartphone. In Amsterdam however there is a strong academic interest in urban screens, with a map of all screens in the Netherlands having been created.[20] The main project of interest here is *Contemporary Art Screen Zuidas*. This screen showed video art from roughly 2005 to 2011, however the virtual museum which it was a part of, was discontinued due to budget cuts (as outlined above).

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17 https://www.studioroosegaarde.net/project/rainbow-station/

18 http://wiseguys-urban-art-projects.com/opdrachten-kunst-openbare-ruimte/ijsei-waiting-busses-birdsmoniek-toebosch/

19 https://www.studioroosegaarde.net/uploads/images/2014/12/11/1876/1876-5889-image.jpeg

20 http://publicscreensforum.com/screensnl

In terms of screens there have been smaller projects such as *Bring Your Own Beamer*—an ongoing project in which artists bring their own beamer to present their work within various spaces and institutions.[21] Locations chosen for this are usually cultural venues not considered part of the mainstream art world. De Brakke Grond, a cultural venue in Amsterdam, has hosted one such event. In it they used the outdoor space in the street and adjacent alleys to turn the urban space into an un-curated gallery for one night, with everyone free to participate.

Furthermore, *The Bridge* connected an urban screen on the Museum Square with one in Venice during the 55th Venice Biennale in 2013.[22] Recently a similar bridge (created by Dropstuff) has been established in various locations[23] between the Netherlands and Sweden to celebrate 400 years of governmental relations between the two countries. In the Bijlmer, a relatively remote borough in Amsterdam, a mood wall by the one-time collective Urban Alliance[24] was installed beneath a passage that felt unsafe to the public. This work is still present.

Dropstuff is a group who use mobile screens for artistic interventions in public spaces. They work closely with a commercial company who use screens for advertisements, with a specific focus on so-called 'gamified' screens. During the annual Museum Night, when most museums in Amsterdam are open until after midnight, the organisation placed a mobile screen at the zoo. In this project, entitled *Slow*, 25 people were required to move in public spaces to align their head with a creature on the screen. When the alignment was successful the creature took over the face of the person. A direct link was then posted to Facebook, with the participant receiving 'points'. Such an element of competition was included in the game in order to get people to compete over getting their face aligned with the creature. Two of the authors present during Museum Night observed that it was predominantly kids in front of the screen playing the game, with them mostly fascinated by seeing themselves on the screen. Adult viewers were not seen to engage with the screen.
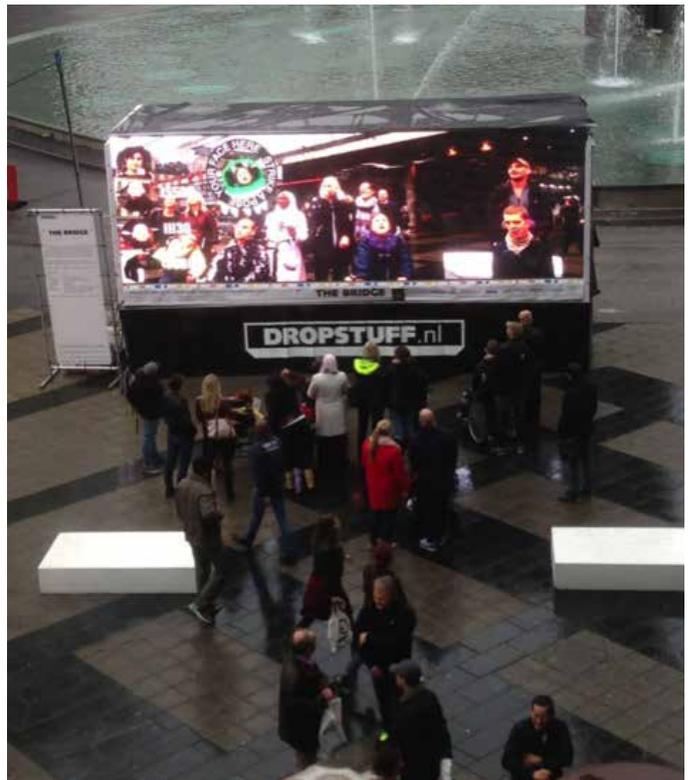

Figure 7: The Bridge[26]

Figure 8: Slow[27]

2.2.5 Discursive art in and about public space

We came across examples of art projects that are not based on objects, whether physical or virtual, but that consist of a continuous sequence of discursive processes with the aim to reflect on the changes in public space. One example of this is *De Stelling/Framed*,[28] created by the artist duo Klaar van der Lippe and Bart Stuart. They were one of the first to set up their studio at the NDSM-wharf, a former industrial area, which provided many people with jobs in the ships manufacturing industry. Most northern boroughs of the city have been constructed specifically to accommodate these workers. When, during the 1980s this industry started to dwindle, the wharf became a wasteland squatted by artists and other groups. Towards the beginning of

21 http://www.byobworldwide.com/

22 http://dropstuff.nl/project/the-bridge-biennale-van-venetie-2013/

23 http://dropstuff.nl/project/the-bridge-nederland-zweden-2014 27?

24 http://www.fiaud.com/moodwall-amsterdam/30?

25 http://dropstuff.nl/project/slow/

26 http://dropstuff.nl/wp-content/uploads/2014/11/foto-2-e1416950548688-1125x1500.jpg

27 http://dropstuff.nl/wp-content/uploads/2014/11/SLOW-Impressie.png

28 http://www.burospelen.com

the new millennium, the city decided to redevelop the wharf into a cultural hotspot. More artist studios were created and gradually large creative corporations started to move in, such as MTV and Redbull. Various hotels have also been built in the physical structures left over from the shipping industry, such as a crane and the infamous 'Botel'. As a result, the remaining artists—among them Stuart and Van der Lippe—are facing much higher rent prices.

The artist duo started *De Stelling*, an elevated platform made out of steel, positioned outside in front of their studio. This platform was the setting for a series of so-called Socratic discourses, conducted in order to reflect on this process of gentrification. Over the course of 2014, they invited other artists and art professionals as well as real estate professionals and city officials to reflect on the role of art and money in public spaces. These conversations were documented online as well as exhibited in their studio, with an aim to turn this project into a memorial for the role of artists in public spaces once they are forced to leave. An interesting dimension to the work is that the platform was set up on territory officially belonging to the city, with the artists not seeking a permit prior to claiming it.

A sequence of this work is *Flag Project*, a series of art works curated by Stuart and Van der Lippe in the open space near their studio. The works depart from how ships use flags to communicate. One example is a sculptural piece by Henk Schut displaying three flags below one another, which, in ship language reads: "Stop Now. Wait for signals. I want to communicate."

Although Van der Lippe and Stuart's use of technology appears to be limited to their website, their work is a discursive and strategic project. Art objects are put in public spaces in order to instigate a conversation about the meaning of that public space. These conversations may take place close to the work, but also exist over e-mail, Skype and other forms of social media. In an interview we conducted with them, they stated:

"We want to make visible how much this area has always been defined by practices of manufacturing, of making, and that this now threatened. Everything is being turned into a space for consumption. By making visible that you can use space to create things, we appeal to people's desire to do something, to be constructive and creative. This is what art should do now, it should activate. It should allow people to see that public space can be about more than money or governance." (Van der Lippe and Stuart)

2.2.6 Subtle and informal interventions

Art works in augmented reality are only accessible through technology, whereas physical art works with a technological element such as screens and light sculptures are more visible and accessible. The last category we discuss are art works that use technology in order to create very subtle interventions in urban spaces, in order to allow users to experience the

space differently. Since the examples we found receive very little to no funding and are not commissioned by local governments with a specific aim to create cohesion, these art works take place infrequently and are usually communicated through informal networks and social media.

Browser-Based is a collective of new media artists originating from the Amsterdam-based art school Gerrit Rietveld Academie. They are working on setting up local internet networks in specific public locations in Amsterdam, such as tram stops. By accessing the network, viewers can look at a virtual gallery that showcases the work of different artists. We spoke to one of the founding members of the collective who explained that the purpose of the work was to link the experience of looking at art to the experience of a certain place. They are currently working on a website for this project.

Sand Mapping is a work by the Amsterdam-based artist duo PolakVanBekkum.[29] The two make sand drawings in public spaces and photograph them in order to share the effects on their website and social media platforms. The artists claim that sand drawings, however subtle, immediately change the atmosphere of a certain place. They also encourage people to use their templates or invent their own patterns in order to have an increasing number of people making and sharing sand drawings around the world.

Figure 9: Sand Mapping in Amsterdam[30]

29 http://www.polakvanbekkum.com/done/unfolding-landscapes/sandmapping/

30 http://www.ijvb.dds.nl/wp/wp-content/uploads/2013/02/Vondel-park01-680x510.jpg

3. Issues related to the use of digital art in public space

In seven interviews conducted with ten artists and experts, a range of limitations and concerns came up regarding the use of digital art in public space. Some regarded general issues of art in public space (such as funding, durability and stakeholders), with other encounters being more specific to the use of digital media (such as awareness, visibility and data/privacy). Some of these issues are discussed below.

3.1 Durability

One of the major limitations to the use of digital media in public space—especially concerning interactive forms—is the issue of durability and whether the material can resist vandalism. Material that people interact with might break easily and when electricity, screens and light are involved these materials are often relatively vulnerable. Our respondent at the Amsterdam Art Fund indicated that the 'better' the interaction is with a work, the more people can use it, therefore the more vulnerable it becomes. Moreover, this durability is not only of essence in regards to use by people but also in relation to weather conditions. Beamers, for example, do not take to rain very well.

Our respondent associated to the Virtueel Museum Zuidas explained that durability and vulnerability were not issues exclusive to digital art, but rather problems of all public art forms. Art is inherently vulnerable, with art intended to stay in public spaces being especially vulnerable to damage in a number of ways. Our respondent gave the example of the work of her father—an acclaimed Dutch artist who made two very large murals for a building that is now demolished—leaving her to find a new place for the murals.

The urban screens seem to be most durable for two reasons. First, they are often beyond reach of people and need not to be touched by the public in order to function (they are either not interactive or their interactivity works through mediation of cameras). Second, the screens can very easily be repurposed for commercial goals. All urban screens in Amsterdam are at present used partly or fully for commercial purposes.

Related to the issue of durability is the financial aspect of this type of work. For the Amsterdam Light Festival, only the most durable material can be used. As electricity is involved close to water, the artworks are installed in public spaces for a matter of weeks only, making the material costs associated with this work relatively high.

3.2 Conflicting definitions of participation and public space

We conducted an interview with Jeroen Boomgaard who is an art historian and an expert on the role of art in public space in the Netherlands. Boomgaard mentioned that the field is characterised by an erroneous view of what constitutes public space:

> Public space is not something that just exists in the exchange between people, things and their environment. Its main characteristic […] is that it is a shared space which can be agonistic. This means you don't always have to agree with the others in that space, but you share it nonetheless. It's not like 'oh look how happy we are together', not at all. That is not what makes public space. This is a mistake I often see, the idea that public space is a place to meet each other. No, it's a space for confrontation. […] It is also a

space in which freedom and security need to be balanced off. If anything goes then you might get killed […] and if the space is totally controlled then certain groups will be excluded, events will be excluded. That is not public space either. [Public] space is a space where you feel that a lot can happen, also things you might not like, but where you are neither endangered nor controlled. (Boomgaard)

Based on this view of public space, Boomgaard questions art that is commissioned or intended to create participation. "Why should you participate in public space? Don't we all participate by being there?" (Boomgaard) he says. Instead, he proposes the notion of appropriation to pinpoint what art can do in public space, acknowledging also the role of technology in this process. He further explains that:

The positive side is that public space, with all those new media things, can enrich how you experience your environment. Then participation is not the point, but appropriation is. […] In my opinion, one of the best things about art in public space is the room it creates for misunderstanding. So it's not about the meaning of a sculpture, it is about the meaning of a sculpture *for you.* It might not be what the artist intended, nor what posh people think art is about, but it is appropriation, and hence a way of participating in that public space. (Boomgaard)

3.3 Awareness and visibility

A very important aspect of this type of intervention is the way it is done and how this is communicated to people who are to become the work's public. Due to issues of durability and finance, festival or event formats are most often used to get publics involved. Because most artworks cannot be maintained in public spaces for extended periods of time without supervision, everything has to happen in one stretch. Especially with works that require electricity, security or involve the use of valuable equipment, it is very hard to keep these works in public spaces for a long time (with the exception of urban screens).

Augmented reality artworks on the other hand are not bound by time or issues of durability as are public works with a material presence (as discussed above). While the augmented reality festival, *Zo niet, dan toch*, took place in September 2013, many of the works are still present today and are able to be viewed and participated in. This fact is not known to the public and is not visible in the materials used in these public spaces. As such, it is very difficult for the organisers to make people aware of the possibility to engage with the virtual world after the festival is over. One of the organisers is now creating a location-based app that tells the user what they can do in the virtual world nearby to where the user is located. In this way, attempts are made to draw attention to the virtual world, at times when people are not made aware of that possibility in a material sense (through, for instance, a sign or an information stand).

Although the works are always accessible in virtual space, the very nature of this platform makes the space less public.

According to Boomgaard:

It allows you to see only the things you want to see, you create your own environment. There is a freedom in that, but public space has an element of confrontation to it which is lacking [in virtual space]. And which I think is a prerequisite for it to be public space. It is too ephemeral. […] A certain kind of permanence, that something makes a mark, a recognition, a presence. […] After all, physical presence has more impact than virtual presence. […] It find it unnerving that all you do is walk around with a mobile phone to look at, and that that makes you believe you are in public space. Because I don't believe that that is entirely true. (Boomgaard)

Awareness is not only a problem for those artists working in the virtual world. A respondent related to the virtual museum and the urban screen on the ZuidAs explained that people are not used to really looking at what is around them in public space (for instance, many thought the screen was an advertorial of some sort). For people to stop and look, interact and have a general awareness of the work, significant promotion was necessary, for which there was no budget available. Moreover, the design of other features in public spaces should be related to the work of art shown. This brings us to the role of stakeholders.

3.4 Stakeholders

The government is certainly the largest stakeholder of any artwork that exists in a public space. Although there are art projects that are completely initiated by the artists themselves (for instance *Zo niet, dan toch*) the municipality will always act as a facilitator, even if only to hand out a permit. Other stakeholders include, for instance, housing corporations. As there is little official policy and both the city and city districts are eager to attract events (the number of festivals in Amsterdam is over three hundred per year) city districts are largely autonomous in helping artists do their work and are often able to cover part of the cost (*Zo niet, dan Toch* for instance was subsidised by the district of Amsterdam North). The budget cuts in arts funding have caused much know-how to disappear. SKOR, the go-to institution for art in public space has had to discontinue its activities, with only a small portion of its staff able to make a new start at the smaller organisation, Taak. Boomgaard is concerned about the disappearance of intermediaries, especially because the communication with and involvement of different groups is crucial where art in public space is concerned. As he explains:

There are a lot of organisations or companies who might want to do something with art, but don't know where to turn for advice, and before you know it some alderman has a creative cousin. That is the risk. The consequences of the budget cuts are quite severe where know how is concerned. (Boomgaard)

The example of the ZuidAs shows how important this know-how is. Intermediaries can help negotiate and translate in order to allow for co-production of public space. Again, Boomgaard comments that:

You have to think about these processes: what do you want the work to do? […] Often, when the work is done, people become less involved. But this is where the real work begins. How do you keep it alive? Should it sustain itself or are there things that can happen around it? (Boomgaard)

It seems that artistic interventions are allowed as long as they work with the given space and do not alter it in any permanent way. The 'festivalisation' of culture might have something to do with this. At present in Amsterdam, cultural activities in public spaces are mostly viewed from the perspective of city marketing and creating 'fun' events for residents and tourists. As such, artists are not understood as co-producers of the city but rather as content developers who help make a city enjoyable to live in. The Amsterdam Light Festival is a primary example that clearly illustrates this point. As Boomgaard summarises:

In the Amsterdam Light Festival I do not see any confusing things, or new types of images. They are all one-liners. You think 'that's fun' and then you immediately hop on your bike again. (Boomgaard)

3.5 Privacy and data-ownership

Privacy and data-ownership are major public issues. Surprisingly, none of our respondents cared much about these issues in relation to their own work. As one of the organisers of *Zo niet, dan toch* explained, as long as you do not use data for commercial purposes, it is fine to collect this information when necessary in the development of apps. Moreover, people who use Facebook and other social media platforms give their data away to companies who do 'god knows what' with them. Issues of data-ownership and privacy are thereby problematised only when used in relation to commercial applications. In comparison, an Amsterdam art project can be seen as relatively harmless. There are others who have similar attitudes, including our respondent at the Amsterdam Art Fund who explained that privacy is really an issue for the artists themselves. Artists are expected of course to handle data with care, however there are no regulations or forms of supervision regarding data collection and use in this context.

In an interview we conducted, digital media scholar Martijn de Waal recognised the lack of care regarding data and privacy, arguing that he expected this to become a topic of discussion in the digital art world in the near future.

4. Conclusion: what does digital art do in public space in Amsterdam?

Regarding the ways in which digital art intervenes in public spaces in Amsterdam, we have observed that interventions in the form of festivals and events are often playful and focus on individual aesthetic experience. A clear exception to this is the augmented reality festival *Zo niet, dan toch*, in which all kinds of interventions were explicitly developed to initiate social interactions between people who had not previously met. Moreover, the use of augmented reality techniques allows the artist much more freedom to redesign the virtual public space in which they work (as there are none of the rules, regulations or financial constraints that accompany works made in physical public spaces). This festival however was focused on a specific and relatively like-minded crowd, consisting of people assumed to be of a higher education level who could access and use smartphones. While the organisers informed us about people from all kinds of backgrounds attending the festival—with smartphones available on loan for people who could not access one—the danger of this type of intervention is that it can become an event for a particular group of likeminded people, rather than making public spaces more inclusive or participatory as a whole.

In most cases, it is not so much the redefinition of public space, but rather its appropriation into a semi-public space for the artistic event and its visitors. In turn, we question the democratic possibilities of these interventions, since most of them seem unable to break away from the festivalisation of art in general. A clear exception to this is the work of Bart Stuart and Klaar van der Lippe, which invites everyone to engage in a challenging and critical conversation about public space. Given the theoretical nature of this work and the fact that it challenges the actions of the city government, it comes as no surprise that this work has not received any funding to date.