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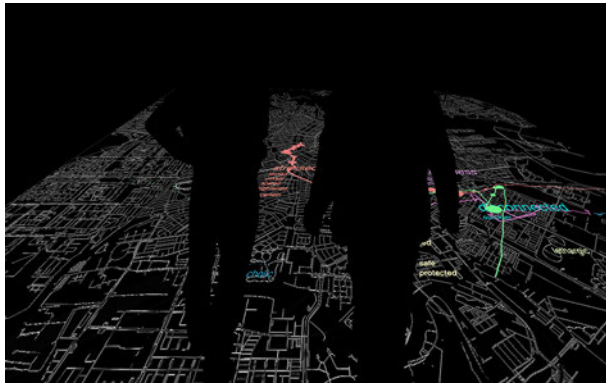

Image credit: Naomi Bueno de Mesquita, Hanneke de Kort, and anonymised cartographer.

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Mapping Invisibility

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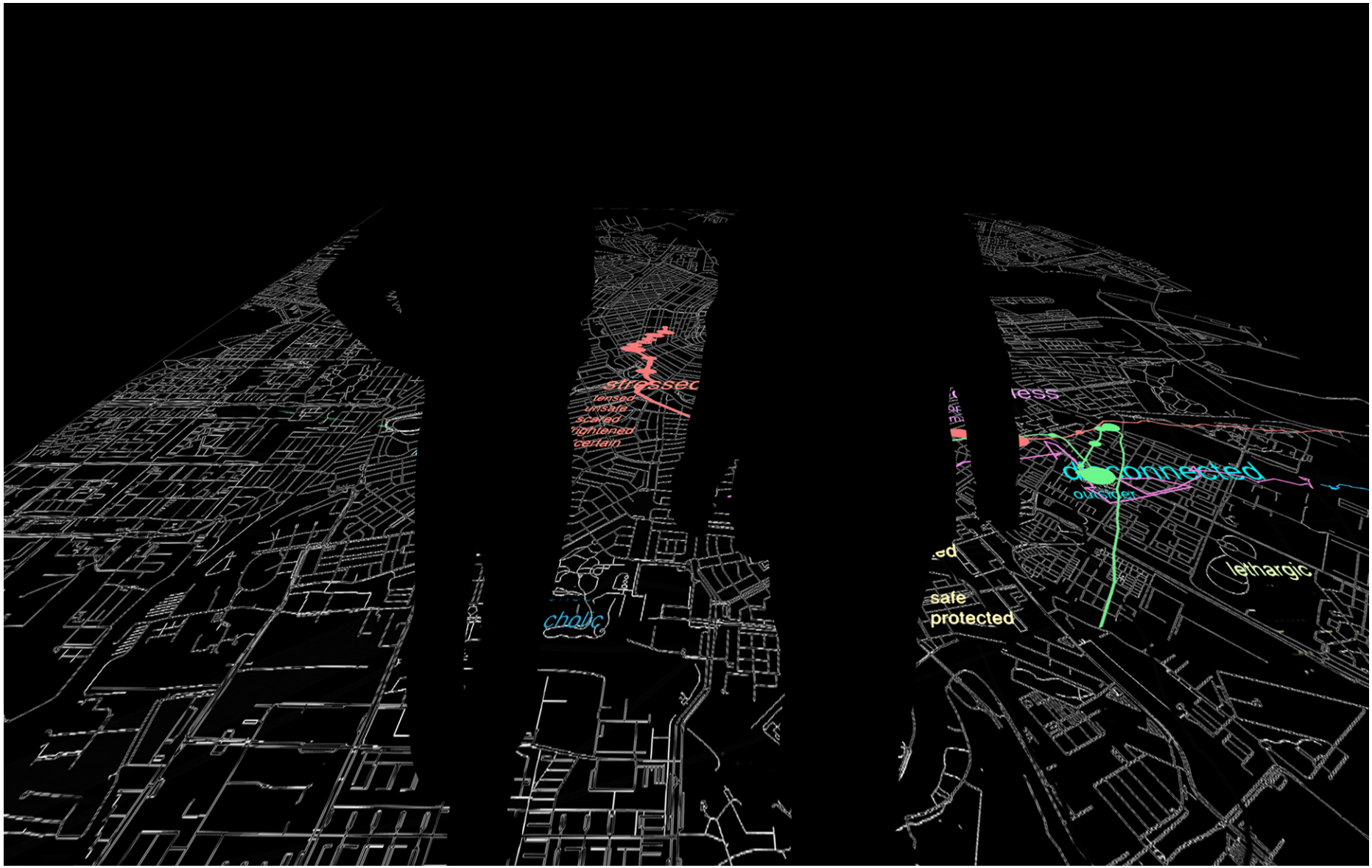
Abstract: In the design research workshop Mapping Invisibility, undocumented immigrants and other participants undertook collective mapping in Amsterdam. The aim was to investigate the day to day practices of undocumented immigrants and to look for ways to make parts of those practices visible and perceptible for others – precisely because much of the life of the undocumented is about invisibility. In the workshop (at least) two cartographers – an undocumented immigrant (guide) and a participant (guest) – walked the city together. The walk was tracked via a web application on a mobile phone with GPS and visualised in real time on a digital map that could be viewed by others on a website. The undocumented immigrant guided the participant to places which represented a certain emotion or feeling for them. On the map, as it evolved, particular places would light up, representing the feeling associated with them. Along the way, the conversation between guide and guest was recorded, and these audio recordings stored in a location-based archive that makes 'unheard' stories available to 'the public'. At the departure point of the original walk, using a mobile phone as a navigational device, at any time, invisible storylines can be downloaded as mp3s. The story remains audible as long as the listener stays on the same route.



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Introduction

Navigating the grey area I finally arrive at the police station. I align the blue ring with the red circle until I get the audio playing. An African accent recounts a story. I look at the sculpture protruding from the building, a few police vans and cars parked around the building, and a floating platform for bikes. The man had been feeling insecure and hopeless – this I learned later in the audio. He had been locking his bike on this very platform. The man continues with his story. Two police officers approach him and ask him about the bike. "Do you have papers for it," they ask him. The two women with whom he shares his story appear to be surprised and ask him, "Do you even need to have papers for a bike?" (Arash Ghajarjazi 2016).

This fragment comes from the notes of someone who participated in a mapping, more specifically, someone who re-enacted an audio map that had been created by an undocumented immigrant a year earlier. Why and how this map was made will be explained later as part of an argument to consider performative mapping as an act of 'inter-facing' between the physical and the virtual, between the known and the yet to be discovered, and between different points of view. First, we will briefly introduce the concept of performative cartography. Secondly, we will present the design research case study, Mapping Invisibility. In this case study, a mapping interface was tested in a workshop in Amsterdam in 2015. The workshop was aimed at making visible some aspects of the day to day practices of undocumented immigrants.

Thirdly, this workshop will be interpreted as an element of design research focussing on how performative mapping facilitates the participation of a variety of urban dwellers in a cartographic practice that enables them to collectively explore and discuss public space and address public issues. Finally, we will argue that, by using the generative power of digital technologies, combined with experiencing and discussing a number of physical and social aspects of the urban environment, some of what so often remains invisible can be revealed and reflected upon.

Performative Mapping and Participation

Maps are products of a design process. There are a lot of decisions to be made and each decision influences the final outcome in terms of what is represented. In this paper our interest lies less in the decisions that have already been made, than in those that are yet to come – the phase when maps are collectively performed; when they continue to be pursued; and when they can turn in new directions. We argue that to perform a map is to 'inter-face' – between different points of view, the physical and the virtual, the tacit and the explicit, the known and the yet to be discovered. It is this 'in-between' state where change can take place, where change takes its place.

In this account, maps are not merely viewed as the representations of a cartographer, but as practices that involve multiple actors.

Furthermore, according to the performative approach, mapping, is viewed not only as taking place in time and space, but also as capable of constituting both. We concur with landscape architect and theorist James Corner (1998: p. 213), who argues that the "agency of mapping lies in neither reproduction nor imposition but rather in uncovering realities previously unseen or unimagined, even across seemingly exhausted grounds. Thus, mapping *unfolds* potential; it re-makes territory over and over again, each time with new and diverse consequences."

The so-called performative condition in cartography is, to a certain extent, amplified by the digitalisation of maps and the upsurge of mobile digital technologies. The clear-cut line between map maker and map user has become both blurred and contested due to software and applications that allow people to (re)make maps. For example, the digitalisation and open sourcing of mapping tools – from publicly available GPS and the developments in OpenStreetMaps and participatory Geographic Information Systems, to the open sourcing of mapping practices by Google, including the release of its programming libraries and data formats (De Souza e Silva 2014) – have contributed to a performative turn in the cartographic practice. Digital technologies not only enable people to have a say in the choice of data to be mapped, more importantly, they also give an increasing number of people agency, through mapping, in the practice of meaning making (making sense of data).

In order to determine how agency could be foregrounded in mapping practices, the participatory qualities of these practices need to be explored. To do this, we focus on the aspect of 'inter-facing' that was introduced above, in particular on how it played out in the design research workshop Mapping Invisibility in Amsterdam. Here, 'inter-facing' should be distinguished from an interface in the conventional sense of a merely digital mediator. Following the leads of Galloway (2012) and Hookway (2014) we consider 'inter-facing' to be a process that involves not only technology, but also the material, social, spatial, and political.

Mapping Invisibility: A Workshop about Hiding Strategies in the Public Spaces of Amsterdam

The workshop Mapping Invisibility took place in Amsterdam in January 2015. The workshop formed part of the programme Out of State, which took place at the Frascati theatre. Out of State brought together a range of researchers, artists, architects, and writers to engage with, and reflect upon, the condition of undocumented immigrants residing in Amsterdam. It is predicted that 200 million people may be forced to flee their homelands by the year 2050 (O'Rourke 2013), thus being stateless might become a future scenario for many.

Mapping Invisibility was organised and designed by Naomi Bueno de Mesquita in collaboration with Platform Scenography and Wereldhuis Amsterdam. For the workshop, a number of undocumented immigrants were invited to take part in a collective mapping together with other participants of the programme. The workshop was designed with a clear question in mind: What are the hiding strategies of undocumented immigrants in the public spaces of the city? The aim of the workshop was to investigate the day to day practices of undocumented immigrants and to look for ways to make part of those practices visible and perceptible for others, precisely because so much of the lives of the undocumented is about invisibility.

Small groups were formed, each group consisting of at least two cartographers – an undocumented immigrant (the guide) and a participant (the guest) – who walked the city together for the duration of four hours (Figure 1). The walk itself was tracked via a web application on a mobile phone with GPS, and visualised in real time on a digital map that could be viewed by others on a website.

The walk was structured by a legend that was not pre-determined, but which had been co-constructed by the participants. Departing from the premise that the legend is the key to unlocking a map – a defining element in what a map reveals and obscures, in other words, what story can be told – the legend in this workshop was co-created by the participants a week prior to the walk. Traditionally the task of constructing the legend is reserved for cartographers alone, but in our participatory mapping approach we aimed to open up this crucial phase of mapmaking. In order to enable them to try to place themselves in the shoes of an undocumented immigrant, participants were sent an email in which they were asked what feelings they thought undocumented immigrants experience while walking through the city. They had a week to respond to this question. The words which were chosen most often became the legend that we would work with on the day of the walk. Due to practical reasons – the workshop was only one day, and the walks were planned to last 'only' four hours – we decided to limit the legend to four feelings. The idea was that, during the walk, the participants' preconceived ideas could be 'put to the test' – in the dialogue with the undocumented immigrant the participants would be able to probe the co-constructed legend.

On the day of the workshop, the undocumented immigrant(s) guided the participant(s) to places in the city with the chosen feelings in mind. A total of four feelings chosen for the legend – stressed, powerful, happy and disconnected – were mapped, each for one hour. The switch from one feeling to another, occurred at a fixed time, and was made by all cartographers simultaneously. During the workshop the digital map evolved (Figure 2). Whenever a new feeling was being walked, the map showed the trajectory in a different colour. The longer the cartographers stayed at a certain location, the thicker the line drawn on the map, this communicated the importance of a place in relation to a feeling, and visualised the different responses to the same feeling. For example, when the feeling 'disconnected' was mapped, some of the

undocumented guides had a specific place in mind to go to, which resulted in a thick line at this location on the map, whereas others experienced it as an ongoing mood and so kept walking, which left a thinner trace on the map.

Figure 1. An undocumented immigrant guides a participant through 'his' city. Photo: anonymised cartographer.

During the workshop, participants were able to discover and discuss the diverse perceptions and uses of public places by the undocumented guides. For instance, strategies for hiding/ camouflage were discovered, such as lingering in the library or pretending to wait for a train. Also, it became clear that certain places/ routes were avoided, such as streets with cameras installed. Paradoxically, these places became 'visible' because they drew attention by remaining unmapped.

Figure 2. A map (screenshot) that is updated in real time, visualising the walked tracks (line) and corresponding intensity of feelings (size of dot) experienced by the cartographers. Photo: Naomi Bueno de Mesquita.

Furthermore, places and things that triggered certain memories and feelings were mapped and photographed by using a web app that was designed for this workshop (Figure 3). For example, one undocumented immigrant associated a land surveyor's tool seen on the street (Figure 4)

with the feeling of powerlessness. The surveyor's gauging rod reminded the man of his desire to work, and the fact that it had been left unattended made his feelings stronger. As the mapping progressed it became apparent that particular things had a more widespread effect in triggering a certain feeling. Pedestrian crossings, for example, were photographed and uploaded by different cartographers successively (Figure 5). Later we understood that zebra crossings raised stress levels because of a higher chance of being caught there.

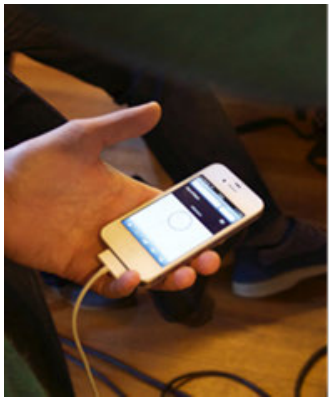

Figure 3 (left). Interface of the web app that was used during the workshop. The app follows a server/client architecture. The server side is developed in PHP using the Laravel framework. The client side is a web app developed in HTML5, CSS3 and JavaScript. On the server side, the main framework is Laravel, which provides user management and database access functionalities. On the client side several JavaScript libraries are used, mainly Leaflet for map rendering and SoundJS (part of CreateJS) for audio. The web app works on any phone with an HTML5 browser. Photo: Mufti Ababujey. Figure 4 (right). One of the undocumented cartographers associated this instrument with feeling powerless. Photo: anonymised cartographer.

Navigate, Map, Engage, Enable, Probe, Discuss

In the walk that each undocumented guide and participant performed, the undocumented person was the navigator. According to Nanna Verhoeff (2012), interactive navigation is procedural, experimental and a creative form of both reading and making space. In this case the navigational aspect lies in the direct interaction between the guide and the guest, which shaped the walk. The undocumented guide directed the participant where to go/where to join him, whilst their route was both mediated by the map's legend and influenced by the direction the dialogue was taking. Through this process a space of engagement was constructed. A space where taking the time and effort to encounter the other was a prerequisite for transferring knowledge – points of view, as well as feelings.

In this space, participants not only engaged with the concrete practices of having to hide in public space, and with (more abstract) perspectives on the subject of invisibility, but also with the (meta-)subject of mapping; in particular the capacity of mapping to enable one to act and to speak. During the walk, through the dialogue with the undocumented guide, participants could evaluate their preconceived ideas about the feelings that had been chosen for inclusion in the map's legend. They could, for instance, check to what extent the selected feelings matched the feelings experienced by the guides in their daily

life. By discussing issues such as these, participants could probe the map's legend during the mapping and, as a result, changes were suggested and discussed by the cartographers. In this way, the map's legend, besides being a meeting point between participants and the undocumented guides, acted as a point of departure for a debate about mapping, agency, and power.

Figure 5. Photos that were uploaded simultaneously by the different cartographers when feeling stressed was mapped. Photos: anonymised cartographers.

Additionally, a larger audience was involved in this debate – the result of the collective cartography performed by the guides and their guests was screened in real time at the Frascati theatre, the main venue for the Out of State programme. There, the map served as a conversation piece for the people present. Such a 'public' debate could hold potential risk for undocumented immigrants. Generally, they are not able to take part in conversations such as these without jeopardising their invisibility. In this workshop, however, the map enabled them to have an active role in the debate whilst continuing to safeguard their anonymity. A public debate was able to emerge around the evolving map on screen, and the undocumented guides had the possibility of steering the direction of the debate – literally, by walking – without being seen on screen themselves and thereby jeopardising their fragile position. By watching the coloured lines on the map and the incoming pictures the audience could follow the walk and discuss places, practices, feelings, perspectives and mapping issues, but the design of the application and the workshop setup guaranteed that the identity of the undocumented immigrants was not revealed to the public.

Effect and Affect

The presence of only a few people at the theatre during the screening limited the 'public' effect of the workshop. However, the participants of the workshop indicated that taking part in the mapping had quite a 'private' impact. One of the participants, who works with undocumented immigrants on a daily basis, (we later found out that he worked for the immigration and naturalisation service), said that this was the first time that he had actually able to experience important aspects of immigrants' day to day practices from their perspective. After the workshop had finished he invited one of the undocumented immigrants to his house. Other participants that we spoke to a couple of months after the workshop, also told us that the workshop was etched in their memories – some places they regularly pass by are now permeated with the undocumented immigrants' stories.

In addition to the mapping (performing the city walk) and the screening of the map (the performance at Frascati), there is also a third way that

this workshop has involved participants – during the mapping, along each of the tracks, the conversation between the participant and the undocumented immigrant was digitally recorded. The audio recordings were stored in the form of a location-based archive, so that after the day of the workshop the stories/testimonies/memories and/or impressions become available to the public. In this case, participants are not guided by an undocumented immigrant in person, but by an audio track. One's mobile phone functions as a navigational device in which the audio is directing you where to go. The invisible storylines can be picked up at any time by going to the departure point, aligning the blue ring with the red circle on the web app's interface, and downloading the audio track as an mp3. When one starts to walk, the track will play and the story is revealed. If one wanders off the original route, the sound will fade out and one will have to find one's way back on track. It is only by being physically present at the exact same location and by following the same route that the story unfolds. In this way, public space becomes an archive of personal stories that can be unlocked (performed) if, (carrying the right equipment of a phone and a pair of headphones), one tries to engage through aligning and synchronising one's direction and walking speed.

In this last phase of Mapping Invisibility, 'inter-facing', by way of tracing someone's steps (through the urban fabric) and via words (in the audio storyline), is a situated, embodied and, literarily, grounded way of transferring knowledge. Again, as in previous phases of the workshop, knowledge in this case explicitly includes feelings. Owing to the different time frames at play – i.e. the moment of listening to the story via the audio track, the moment that the story was told, and the moment that the story is telling about – different feelings (of different people) are involved and can become blurred in the experience of the listener of the audio track. This can be unsettling.

To some extent, this unsettledness can become publicly visible. As the listener is guided by the storyline, his or her possibly somewhat peculiar way of walking becomes visible to others in the city's public space. For instance, someone standing still for ten minutes at a specific location, staring at a concrete wall, listening to a man telling a story about how, on the day that the story refers to, he parked his bike on this exact location, when, in the 'here and now', there is actually nothing to be seen – this could arouse the curiosity of urban passers-by.

The two officers detain the man, bring him to the station and verify that the bike is not missing or stolen. He is absolved from this one, but he has no papers for himself. Next thing he knows, he tells the two women, he is in prison for almost six months. He is smiling, which surprises the women, and is probably looking at the building without really intending to. " I may smile," he remarks, "but inside, inside my head, it aches." I try to stay aligned with the red dot on the screen. It seems that it moves around a little bit (Arash Ghajarjazi 2016).

Conclusion and Discussion

The value of performative mapping as a design research approach

The case study Mapping Invisibility, we argue, demonstrates the value of performative mapping as a design research approach for engaging multiple actors in both a spatial exploration of public spaces as well as in a dialogue about inclusion/exclusion in the public domain. We have tried to show that by using the generative power of digital technologies combined with actual experience of, and discussion about, a number of physical and social aspects of the urban environment, some of what so often remains invisible, can be revealed and reflected upon.

As was shown, Mapping Invisibility involves navigating and mapping. We consider both of these as ways to 'inter-face', a term which, in this case, we take to imply a process of interaction that revolves around exploring 'in-between territories' – between different points of view, the physical and the virtual, the tacit and the explicit, the known and the yet to be discovered. In Mapping Invisibility, navigation involves interaction between a guide (an undocumented immigrant) and a guest (a workshop participant) as well as between this group of actors and their surroundings. Following Nanna Verhoeff (2012), we consider interactive navigation to be a practice both of reading, and of making, space. *Reading* space in this case means reading the urban landscape that the workshop's participants navigate from a number of preselected perspectives, i.e. the four feelings chosen by the participants. These perspectives/feelings constitute a legend that enables the participants to co-create a digital, real-time map while walking and talking, *by* walking and talking.

To understand how, in this case, the reading of space involves *making* space, the workshop's navigating practice has to be considered as a practice involving mapping. Mapping in our view is an act, it is performed. Referring back to James Corner's view, mapping enables the workshop participants to unfold potential – "it re-makes territory over and over again, each time with new and diverse consequences" (Corner 1998: p. 213). In such a mapping practice, reading space can become making space – unfolding "new realities out of existing constraints" (*ibid.*: p. 251). This space, these realities, not only refer to the physical space of the urban environment that is navigated, mapped, read and re-made, they also refer to the space of engagement constituted by the participants taking the time and effort to encounter 'the other'.

In the case of Mapping Invisibility, this encounter may take place in various phases: during the workshop in face-to-face dialogues throughout the walk; by engaging with the map screened at the theatre; and after the workshop has ended, when someone retraces the guide and guest's steps by installing a web app on their mobile phone and retrieving one of the stories from the workshop's location-based digital archive – by first "navigating the grey area" and then trying to "align the

blue ring with the red circle", one can activate the audio track and listen to the story unfold, again, anew.

A map, in this case, clearly is not considered simply an object to behold but rather as something to be (inter)acted with. The map's potential lies in its ability to activate. Following the lead of Jacques Rancière (2009), who defies the idea of viewing and acting as opposites, we argue that it is in the activity of both the viewer (of the city and of the map) and of the listener (of the story) that encounters can take place and territories can be explored.

This exploration of the 'previously unseen or unimagined' will not necessarily be a smoothly flowing trajectory. On the contrary, both during the workshop and afterwards, walking does not imply keeping a steady pace, rather, it involves halting, for instance in places where the guide recalls some incident and needs to reflect on it. Here and there, walking may even involve stumbling, dodging, and turning around. Along similar lines, talking also includes remaining quiet every now and then. It may involve hesitation, for instance when the guide is looking for words to share what he thinks and feels, or when participants engage with what is shared with them. In Mapping Invisibility, stumbling and hesitating, looking, and taking another look, listening and listening again, are part of a method that deliberately interrupts or rekindles daily routines and familiar routes through 'seemingly exhausted grounds'.

The Mapping Invisibility workshop provides participants with an opportunity to discover what was hidden from view and to rethink what had been assumed. The workshop presents an unfamiliar yet oddly recognisable city; it forces (or enables) participants to engage with what Michel de Certeau (2002: p. 96) has called the "disquieting familiarity of the city". Together with their guide, the participants explore and re-fashion a territory, reflecting on the consequences this has, both in everyday life as well as in professional practices of engaging with public space and public issues. In this way, the workshop helps participants explore what interaction and participation have to offer in a contested urban environment – by not just considering abstract concepts, but by putting them to the test in a practice of 'inter-facing'.

Preparations, presuppositions, and responsibilities in design research

This practice of 'inter-facing' involves quite a few complexities and challenges. Not only do all kinds of practicalities require attention but, because there is a group of 'vulnerable' people involved, ethical issues also need to be addressed. The design research in this case – and in similar cases that involve vulnerable groups – needs to be thoroughly reflected on prior to, during, and after the workshop, as regards the researcher's preparation, presuppositions, and responsibilities. Although we cannot offer general guidelines or advice on the basis of one workshop alone, we do think it can be valuable for other design researchers, especially those concerned with matters related to

participation, agency, and power, if we conclude this paper by briefly reflecting on three issues.

Firstly, how were the undocumented immigrants recruited, and how did we engender trust and build relationships? In this case, context and space were very important. The workshop was co-organised with Platform Scenography and was part of a two-week programme about the practical consequences of inconsistent policies regarding undocumented ('illegal') immigrants. Two curators from Platform Scenography invited us to contribute to this programme, and they provided us with the logistics of where and how to reach the undocumented immigrants. Then, two weeks prior to the workshop we were invited to come to Wereldhuis, a building in Amsterdam where undocumented immigrants gather for various meetings and activities. There, in this safe and familiar environment, we presented the idea for the workshop. This introduction was important because it allowed us to present the affordances of the web app with regards to enabling undocumented immigrants in participating in the public realm whilst safeguarding their fragile position, i.e. staying anonymous.

This brings us to a second issue, one of preparation and the unexpected. Our careful preparations to mitigate risk did not prevent us from being caught unawares during the execution of the workshop. It proved to be hard to predict how the immigrants would react to the different combinations of media technologies and physical spaces involved in this workshop's explorations of 'hiding' and 'making public'. The undocumented immigrants that were invited had the opportunity to decide whether to participate or to withdraw, up until the last moment, so we were not sure how many of them would actually show up and if there would be a sufficient number of guides for the walks. To our surprise, on the day of the workshop there were more undocumented immigrants than participants.

Another surprise was that one undocumented immigrant told us that he would like to appear in a film. He was interviewed and was comfortable with the idea of posting a video of him online. Apparently the willingness (of some) to share their stories was greater than the fear of being caught. On the day of the opening of Out of State at the Frascati theatre, however, there were no undocumented immigrants sitting in the audience. Although one can consider a theatre more as a collective space rather than a public one, (one which for some even provides an intimate sphere), for undocumented immigrants there appeared to be a barrier to participation as a member of the audience.

A third issue concerns preconceived ideas. In design research these play a role in all kinds of ways, e.g. in the guise of preconceptions, hypotheses, conjectures, and prejudice. We will give three examples from Mapping Invisibility. The first example concerns prejudice – our own prejudice. In the workshop the participants were to use their own mobile phones to map the city walks. We prepared a brief instruction for the participants, and expected a smooth start. However, quite a few participants appeared to have problems with operating their own

phone. For instance, some did not know how to turn on location services. At some point, a couple of undocumented immigrants that were also present took over the phones to help the participants by explaining to them how to operate them. Clearly, some of our preconceived ideas about agency in relation to technology were false.

Then there was our conjecture that a second version of this workshop, a couple of months after the first workshop, involving only undocumented women acting as guides, could be undertaken without much trouble. This supposition proved to be wrong. Attitudes and interpersonal relations turned out to be different in the second workshop, and this resulted in difficulties in the conversations during the walks. The women indicated that they felt uncomfortable being in the spotlight during interviews by male participants. The male participants, in turn, felt uneasy asking the women questions. Although we have not had the opportunity to explore these issues further, we think the problems could be explained by the even more vulnerable position of women in public space, and by cultural differences.

A final example concerns a research hypothesis. For the second workshop (involving the women) the app design was changed. During the walk, participants were not asked to stick to a single feeling but could decide to discuss a variety of feelings, chosen from a list. In addition, they could communicate the intensity of the feeling that was experienced, by pressing a button built into the web app. Our hypothesis was that the app would, in this way, facilitate more nuanced conversations. This turned out not to be the case. The dialogues suffered from this added function, because it required more actions from the participants to be performed during the conversation. Furthermore, including more than one feeling in an hour's walk resulted in shallower conversations. In the first workshop, the (single) feelings had been discussed more in depth. In this respect, in our view, the first version of Mapping Invisibility was more successful in 'inter-facing' and exploring 'in-between territories'.

Acknowledgements

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