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### Collaborative data practices in the neighborhood

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# COLLABORATIVE DATA PRACTICES IN THE NEIGHBORHOOD: AN AMSTERDAM CASE STUDY

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## ABSTRACT

An increasing amount of cities are trying to increase civic engagement by using digital tools and platforms which gather data in a variety of ways on relevant topics within the city. Tools and platforms that focus on handling easy to fix issues on a local scale such as broken streetlights have been successfully implemented in cities already. In this paper a case study is described which aimed to retrieve data from citizens about a more complex local challenge in a neighborhood in Amsterdam. Furthermore, it has been investigated how the municipality could use the collected data as input for policy making. By making a participatory mapping mobile phone application available in a neighborhood, data was collected about places in the neighborhoods public space in which the citizens took pride and places that needed attention. This data is to be used as input for the area plan of the neighborhood. A first case-study with the application showed that even though there was low participation from the neighborhood, due to the high quality of the added data it was still valuable for the municipality.

## KEYWORDS

Civic engagement, mobile, participatory mapping

## 1. INTRODUCTION

In recent years, the bottom-up movement has been rapidly growing. Citizens equipped with, tools, skills and formats are becoming more and more active in a process which is called “city making” (De Waal, 2014) or “DIY Citizenship” (Ratto & Boler, 2014). Next to these emerging trends, municipalities are trying to better include the citizens into the decision making processes of the city powered by the governmental push for a participation society. This is reflected in an increasing amount of digital tools and platforms that are emerging which are made to assist the local government in their endeavor for more civic engagement<sup>1 2</sup>.

Many of these tools are tools and platforms enable citizen to report about problems in their neighborhood (King & Brown, 2007). The issues that can be reported are usually in a set of pre-defined categories in a standardized data format (Ashlock, 2015), making it easy for the municipality to handle them internally by allowing them to easily connect to the different departments within the municipality. But there are also more complex challenges in the neighborhoods (e.g. more parking spaces for bikes or closing down a street for cars) that do not fit in a set of predefined categories. They usually have more impact on a street, neighborhood or even city scale and requires the municipality to take a new approach of handling such types of data.

In this paper a case study is presented in which PPGIS is used via a mobile phone application to gather data on a more complex neighborhood challenges. We investigate how this type of data can assist the municipality in their policy making in a more long-term and sustainable way. Public Participation GIS (PPGIS) has been used in urban planning field since the mid-1990s (Obermeyer, 1998). It has shown to give valuable insights from citizens by incorporating their local knowledge (Sieber, 2006). Together with the municipality of Amsterdam a case study was performed called “Measuring Dapperbuurt”. During this pilot an app and a data platform was developed that was able to retrieve data on which parts within the public space the citizens took

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<sup>1</sup> <https://www.verbeterdebuurt.nl/gemeente/amsterdam/>

<sup>2</sup> <https://www.fixmystreet.com/>

pride and places that needed attention. We will discuss the results from the case study, discuss the lessons learned and plans and directions for future research.

## 2. BACKGROUND.

Within the municipality of Amsterdam there has been a shift to a more neighborhood focused governance (Lowndes & Sullivan, 2008). It has formed 22 neighborhood teams throughout the city to increase civic engagement and help new and existing grassroots initiatives to improve the livability of their neighborhood. Besides this, the city uses area plans -which are updated every year- which describe the focus for improving the neighborhood's livability for the coming year. The city of Amsterdam wants to make use of the active bottom up society and collaborate with them in a design process to construct these area plans. Various tools are used to let citizens participate and increase public engagement. This ranges from enabling quick fix applications to contributing to platforms from existing grassroots initiatives in the city (Niederer & Priester, 2016).

When working together with citizens via participatory tools, it is important for the citizens to receive feedback on the input they provide. This means the municipality has to give feedback on how they will process and act on the input from the different tools (Kingston, 2007). For example, platforms such as Fixmystreet (King & Brown, 2007) allow citizens to report issues in the public spaces such as broken street furniture. When connected to such services, the municipality can quickly act on reports from their citizens. The citizen will see a quick result, which increases their motivation to report again (Cantijoch et al, 2014). While these quick fix type of applications are embedded successfully in an increasing amount of municipalities, there are also issues in neighborhoods that cannot be so easily acted on by the municipality. These issues require more time and are more complex for the municipality to act on. Examples of such problems are adding more places to park or adding a community garden to the neighborhood. They usually require the activation of multiple layers within the municipality to look at the idea. These ideas could also have impact outside of the neighborhood boundaries. This means that it will take more time before the municipality can act on input from the citizens. Therefore it is important that expectations from both sides are managed (Brown & Kytta, 2014). It should be made clear to the citizen that it will take time to change something, especially if decisions have to be made on a policy level. Simultaneously, the municipality should be transparent and open about what the process for making more rigorous changes within a neighborhood entails.

Public Participation GIS (PPGIS) technologies can be used within a wide range of activities for individuals and processes. Schlossberg and Shuford (2005) argue that the meaning of “public” and “participation” are essential to understanding the public participation dimensions of PPGIS. In their typology, the term “public” may include decision makers, implementers, affected individuals, interested observers, or the random public. The “participation” dimension can range on a spectrum from the public passively receiving information to increasingly complex modes of engagement resulting in citizen control over a decision process (Brown, 2012). This shows that PPGIS can be used within a broad range of participatory engagement methods who can use different spatial information.

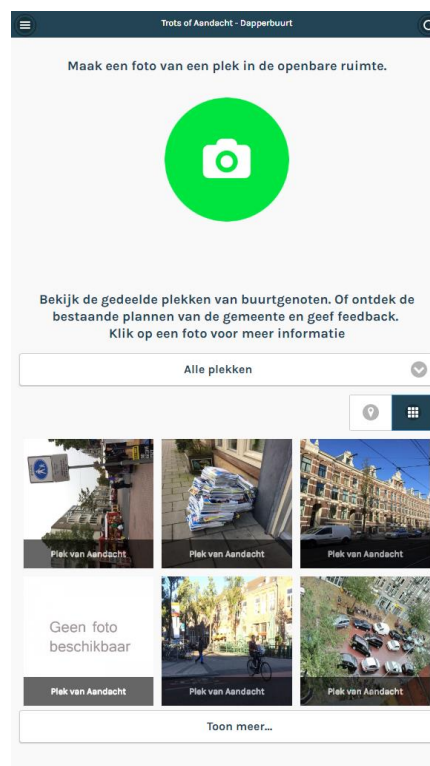


Figure 1: screenshot of the app

### 3. CASESTUDY

Together with the eastern district of the Amsterdam municipality, a pilot study was constructed and a first test was conducted in a small Amsterdam neighborhood called the Dapperbuurt (8400 residents). A mobile phone application was created which main purpose was to enable citizens to give input on places of pride and attention in their neighborhood. The application had various functionalities. First of all, the participants were able to see the current plans from the municipality regarding the public space in the coming years. Secondly, participants could add places of pride or attention. It was possible to attach a photo, location and description about that place. After uploading, all other users could also see the place that was just added (figure 1). Finally, users were able to either like or dislike places added by others. To make the barrier to join as low as possible users could join either anonymously, but were able to enter their email address if they would like to get in contact with the municipality. The mobile application was published on both Android and iOS.

In the case study the primary focus was on the public infrastructure. The district gets a certain budget for improving the neighborhood's infrastructure. At the moment, budgets for improving the infrastructure in neighborhood are based on 'metadata' such as the age of the infrastructure. This is a very top-down approach. With the case study the municipality wants input from the citizens in what they think should be improved in their neighborhoods infrastructure. To gather this input the goal of the mobile application was to find out: 1) which places citizens like in the neighborhood 2) which places require attention and 3) if citizens may have ideas of their own to improve the infrastructure.

The mobile application was deployed and tested during a two week period from the 27th of September to the 10th of October 2016. Using the municipality local communication channels and using flyers within the neighborhood users were invited to participate. Via all communication channels citizens were invited to get an explanation about the project and the application at the start of the data collection campaign.

### 4. RESULTS AND DISCUSSION

To be as transparent as possible about what the app does, users saw an explanation of what the purpose of the app was and how the data was going to be used by the municipality when the app launched for the first time. Users were also asked if they would like to enter information about their gender and age. This was not mandatory. A total of 72 users downloaded the app and went through the welcome screen with project information and demographic information questions. From these 72 users, 55 answered the questions for demographic information (Table 1).

Table 1: Overview of app users

<b>Gender</b>	<b>#</b>	<b>Age group</b>	<b>#</b>
Male	32	15-24	0
Female	21	25-44	33
		45-64	19
		65+	9

In total 14 places of pride and attention were added. From these 14 places, 5 were tagged as a place of pride, while 9 were tagged as a place of attention. In total 33 likes and 5 dislikes were added to these places. The amount of places added was lower than expected beforehand. From the 72 users who installed the application very few people added data. While not many places were added, the municipality did find the quality of the data that was added high. Users attached clear descriptions and photos for the added places which were valuable for the municipality. The municipality indicated that the results of this study are being analyzed and studied in a qualitative way by the civil servants and that they could be used as discussion starters for the area development plans of the neighborhood.

In a first evaluation of the case study together with the municipality and citizens it showed that the sense of urgency was lacking for the citizens regarding the goal of the case study. Even though it was tried to get the goal across via flyers, workshops and in-app F.A.Q, the goal of the case study did not connect to the citizens

enough to make them want to spend time on it. This also reflected in the difficulty to get people to attend the workshops that were organized before the case study to explain the goal of this pilot. Other indications that the goals were not clear were remarks about the name of the application. While the app was transparent and clear in explaining its purpose on the first launch of the application, people did not respond very well on the promotion materials by not downloading and using the app. A possible explanation for this could be that there was no sense of urgency for people to participate when seeing the various promotional materials.

Furthermore, it showed that the usability of the application could still be improved to make the app more intuitive to use. It was also mentioned that not everyone was reached within the neighborhood. Most communication channels used were focused around a school in center of the neighborhood. In the first week after the app was deployed, flyers were given out by students to try and attract more users, but this had no little effect on the amount of downloads of the application.

## **5. CONCLUSIONS AND FUTURE WORK**

In this paper we described a case study done in a neighborhood in Amsterdam where a mobile application was deployed to receive information from citizens regarding places of pride and attention in their neighborhood. This information was to be used by the municipality in forming the plans for improving the infrastructure in that neighborhood in the coming years. The results indicate that many citizens did not feel connected enough to the goals of the project to spend their time walking around the neighborhood and adding data. There was no sense of urgency and feeling of impact in their daily lives to commit to participating in the case study. This was also influenced by the fact that the expectations and goals were not made clear enough to citizens.

While this case study was planned and executed on a short term basis, it is clear that future work will require a longer planning and co-design process with the citizens to make the project a success. While the app shows promising results looking at the quality of the data, better connections will have to be made with existing grassroots initiatives or major urban planning projects to narrow the scope and making it easier to explain and manage the goal and expectations of the tool. In further research more in-depth interviews will be done to get a better understanding of how users perceived the tool and how they feel they can be more engaged in the policy making process of the municipality.

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