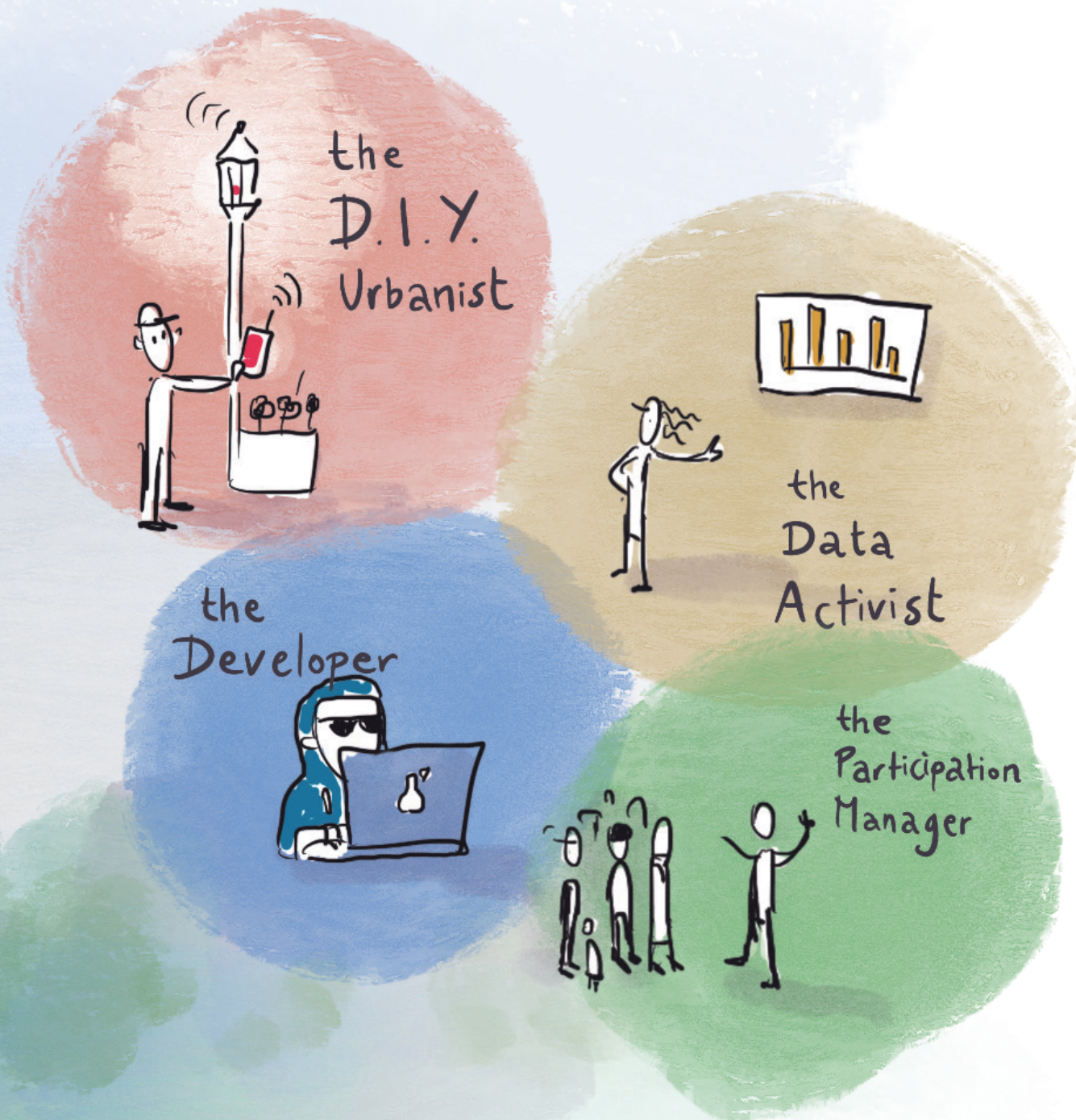


# DIGITAL CITY MAKERS

RWTH Aachen University

Researchmodul Sommersemester 2020



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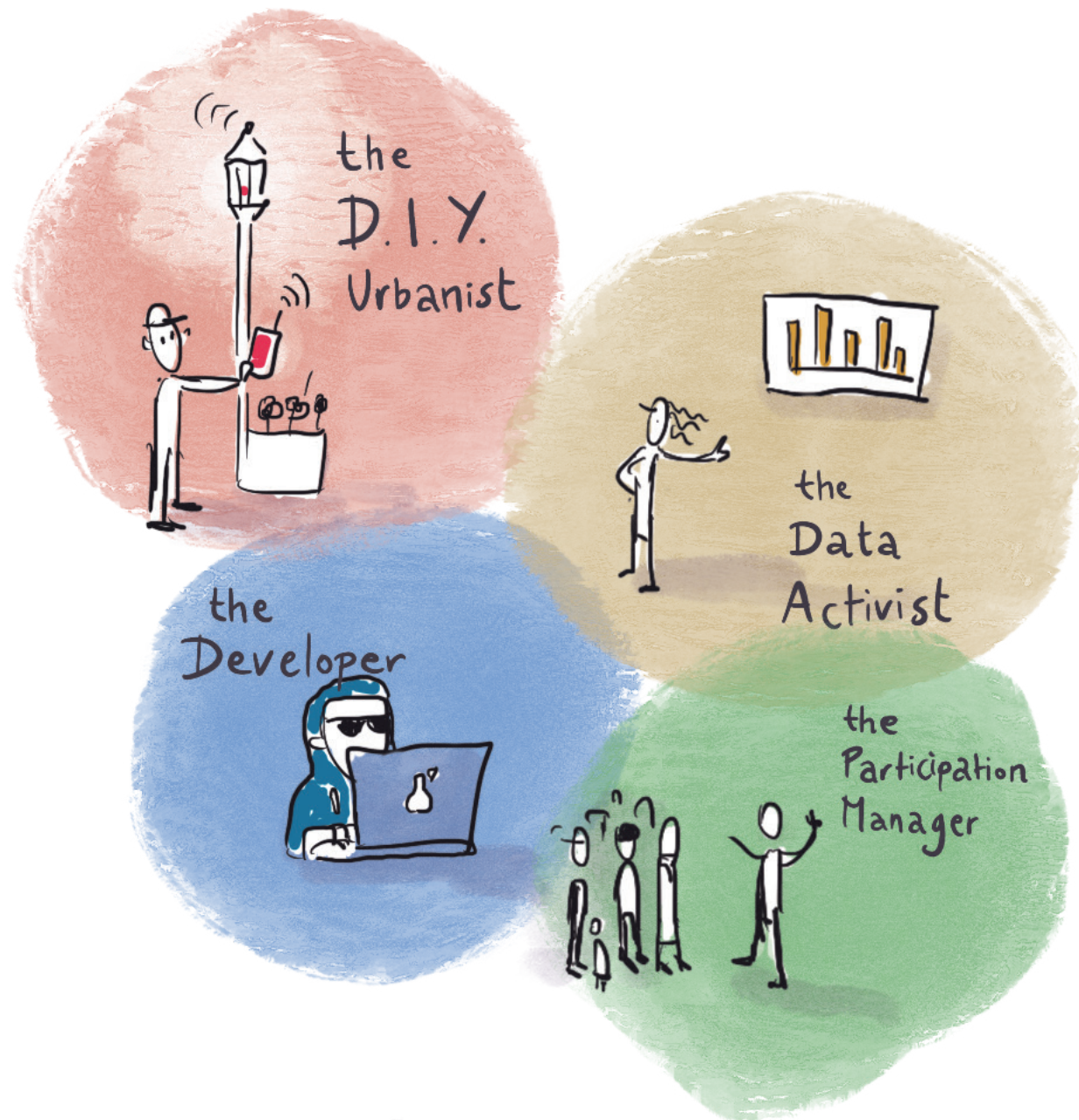
# INTRODUCTION

BY MARTIN BANGARTZ

## DIGITAL CITY MAKERS

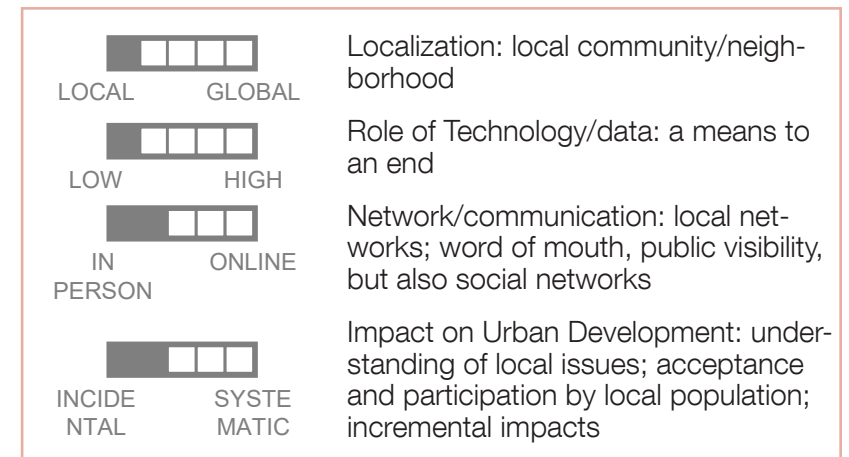
In the 21st century, the digital transformation permeates every aspect of everyday life. The most active players in this context are companies and corporations that are experiencing significant economic gains through product development and the collection and sale of data. Is the role of citizens thus limited to the generation of data for the purpose of global surveillance and targeted marketing? Are there digital assets that are exposed to a similar risk of being sold at a profit as physical urban common goods? What role does digitalisation play in the context of welfare state tasks and services of general interest? Faced with these questions, activists are joining forces in global networks and local spaces to shape and design, organize or enable just digital cities.

Urban developers have always worked to (co-)produce and shape urban space: reactivating underused spaces, giving impulses for community life and creative expression, raising awareness through public intervention. Although the digital transformation adds new threats and levels of complexity, it also offers new tools and actors to urban development. Local communities are enabled to collect data and evaluate it digitally to solve real world problems. At the same time, the integration of such initiatives into global networks of open source platforms is increasing, giving local solutions greater reach and allowing them to be used in other contexts in an adapted way.



**THE DIY URBANIST:** they are rooted in a neighborhood and are determined to solve local issues or improve the local environment in general. They work visibly in public space using physical interventions, but they apply digital tools to support their projects. They are not necessarily experts in technology, but interested in its potential to support their ends.

Examples: public art installations or games that use technology, Laser bike lanes, location-based social media, online crowdfunding for local projects



Localization: from neighborhood to global, but often city scale or higher

Role of Technology/data: data and technology as weapons of choice

Network/communication: communication of ideas and formation of networks as the very aim of technology

Impact on Urban Development: understanding of local issues but also global relations; potentially swaying public and official opinion; influencing policy-making



**THE DATA ACTIVIST:** they use public data or collect their own data to visualize issues or ideas. Their aim is to further a certain agenda by targeting the general public or city officials and influencing their opinion.

Examples: Luftdaten project (Stuttgart); geo-data visualizers (Topi Tjukanov, Miska Knapke...)

**THE DEVELOPER:** they live by the ideals of open data and are more connected to an online community of like-minded city makers than a local community or space. Their activism is mainly online, but still surrounds the topic of city-making or aims at empowering local communities by establishing data as a commons.

Examples: OSM, github, open source software, Dead Drops, Open Knowledge Labs, maybe also maker-spaces



Localization: city or similar administrative unit  
Role of Technology/data: a means to communicate with and engage others

Network/communication: top-down communication by the technology provider at first; attempting to initiate and support responses at the grassroots

Impact on Urban Development: generating knowledge about local issues for authorities; community-building and kindling local initiatives



**THE COMMUNITY MANAGER:** they have been commissioned or at least supported by the government to actively start a process of participation for a local community.

Example: civic technology consultants like Damian Paderta





## CASE STUDIES

### *TRANSITION TOWN HANNOVER*

Hannover, Germany | by Leonie Poulheim

### *WALK [YOUR CITY]*

Raleigh, USA | by Mayara de Sá Siqueira

### *HANNOVER VOIDS*

Hannover, Germany | by Marek Waldschmidt

### *OKLABS BONN*

Aachen, Germany | by Ilkin Kavi

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### *GREENMONEY*

Australia | by Clara S. Rendón Schatanek



TRANSITION TOWN HANNOVER

HANNOVER, GERMANY | BY LEONIE POULHEIM

PROJECT DESCRIPTION

Transition town Hannover is part of a superordinate movement - the Transition Network. Founded in 2005, the network spans the whole world and has the goal of supporting local authorities in their issues and establishing an exchange between the sub-groups. A special feature of the organisation is that there is no central controlling unit. Active groups can emerge anywhere in the world and pursue the goals of the region. The idea is to start with the implementation on a local level to create a global exchange and enforce goals. Topics covered include the economy, entrepreneurship and new forms of work. Transition Town Hannover is an example of an association of several sub-groups that pursue different topics and goals. They form groups that meet regularly on site to jointly bring about positive changes. Learning processes gained at the local level can often be communicated and passed on nationwide or even globally. The aim is to create a network of mutual support and a contact point for everyone who wants to get involved in certain topics. The network of the Transition Movement reaches across the world and is divided into subordinate units at national and regional level. In so-called international, national and local hubs are organisational structures that ensure an exchange between the levels.



Illustration 1: Community garden (TTHannover 2016)



Illustration 2: Map of Hannover, without scale (Openstreetmaps 2020)

PROCESS TIMELINE

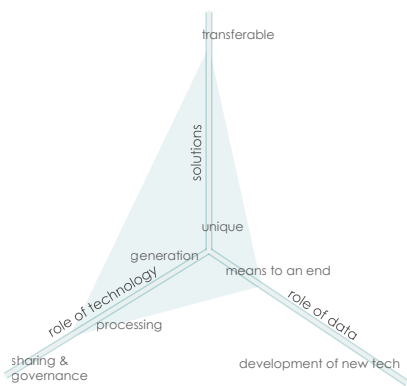


CITYMAKER

Type of Citymaker:  
DIY Urbanist

Technologies used:  
Websites, Social media  
like Instagram and Facebook

TECHNOLOGY



MODE OF OPERATION

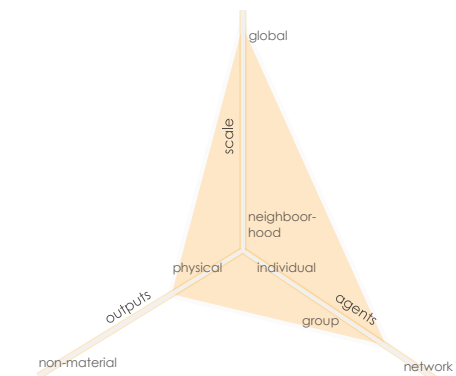


Illustration 3: Technology and Operation (Own Illustration 2020)

KEY DIMENSIONS

At the international level, the aim is to gain experience from local structures. The organizational structure at national level is particularly important for the exchange with media and government units. The locally organised hubs, such as Transition Town Hannover, represent a wide range of topics and are usually run exclusively by volunteers. Technologies play a role, especially in terms of the communicative exchange between members, to ensure the successful implementation of projects. Social media and websites are an important medium to present the organisation to the outside world and to acquire new members or to promote citizen participation. The communication structure must ensure a flow of information within the levels, but also between the different levels to implement new ideas in the local working groups.

VISUALISATIONS

The visualisations 4 and 6 schematically show the network structure of the transition movement and the structural levels to be investigated. From the superordinate movement, numerous sub-organisations emerged, which initiate and implement projects on a local level. The so-called 'hubs' represent the organisational units on the respective levels. At the end of the investigations and the thematic

discussion, the aim is to give an overview of the general organisational structures on the different levels, as well as of the exchange within and between the units. A special focus will be placed on the used communication media. The question marks in visualisation 6 illustrate the requirement to detect and highlight gaps in the network of communication. Visualisation 4 shows the central questions that arise in the context of the overall investigation at the respective levels

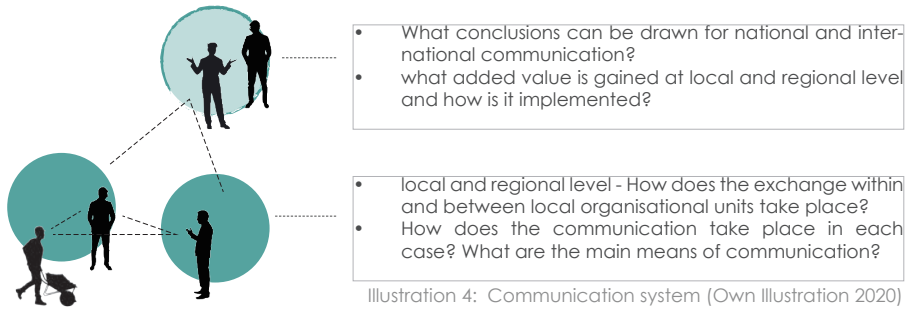


Illustration 4: Communication system (Own Illustration 2020)

CONTEXT AND EFFECTS

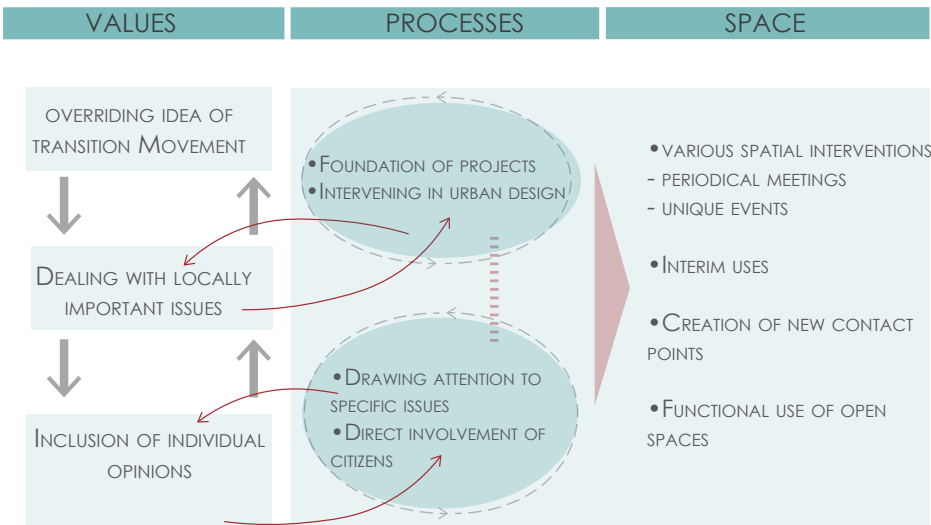


Illustration 5: Context and Effects (Own Illustration 2020)

under consideration. Communication within the organisation of the Transition Town Hannover remains the central object of research. From the observations, conclusions will be drawn as to the extent to which the experience gained at local and regional level represents added value for the national and international structure of the movement. The investigations should also clarify to what extent the organisation is limited by the current situation.

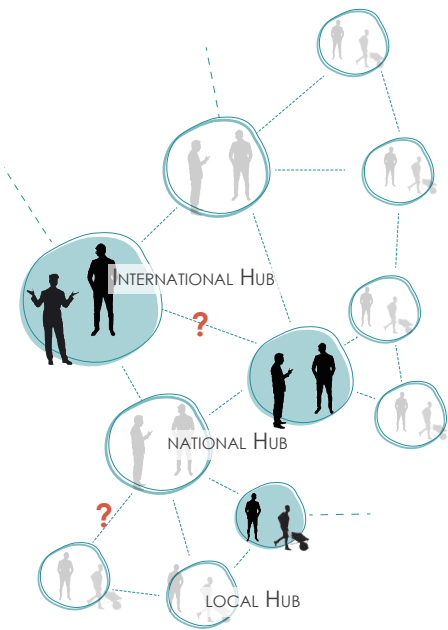


Illustration 6: Network Transition Town (Own Illustration 2020)

CONCLUSION

Transition Town Hannover embodies the idea that many individual organisations operating on a small scale contribute to a large network. This idea is very innovative. The fact that there is no central controlling organisational unit and that the projects are adapted to the respective needs at local level means that there is a strong and realistic link to the regionally important issues. The aspect of communication and exchange among each other is a very important instrument to achieve the overall goal of applying all experiences at international level. This is the reason why in the further discussion of the topic the focus should be on the network of communication. The organisation Transition Town Hannover is not a classic digital city maker. There is no special form of digital communication. The reason why I nevertheless decided to deal with this topic is that I find the form of the overall idea very interesting and how communication can help to implement it worldwide.

RELATION TO OTHER CITYMAKER CASES

The organisation Transition Town Hannover is an important city maker. However, it is not a digital city maker in the true sense of the word. Compared to most other digital city makers, the organisation has little interaction through digital means. The aim of the study is to highlight what the advantages and disadvantages of this are and what gaps exist. The interesting part of this project is the examination of the organizational structure with regard to its communication network. The aim is to find out to what extent the organization benefits from its way of communication and on which levels an extension of the digital network would be beneficial.



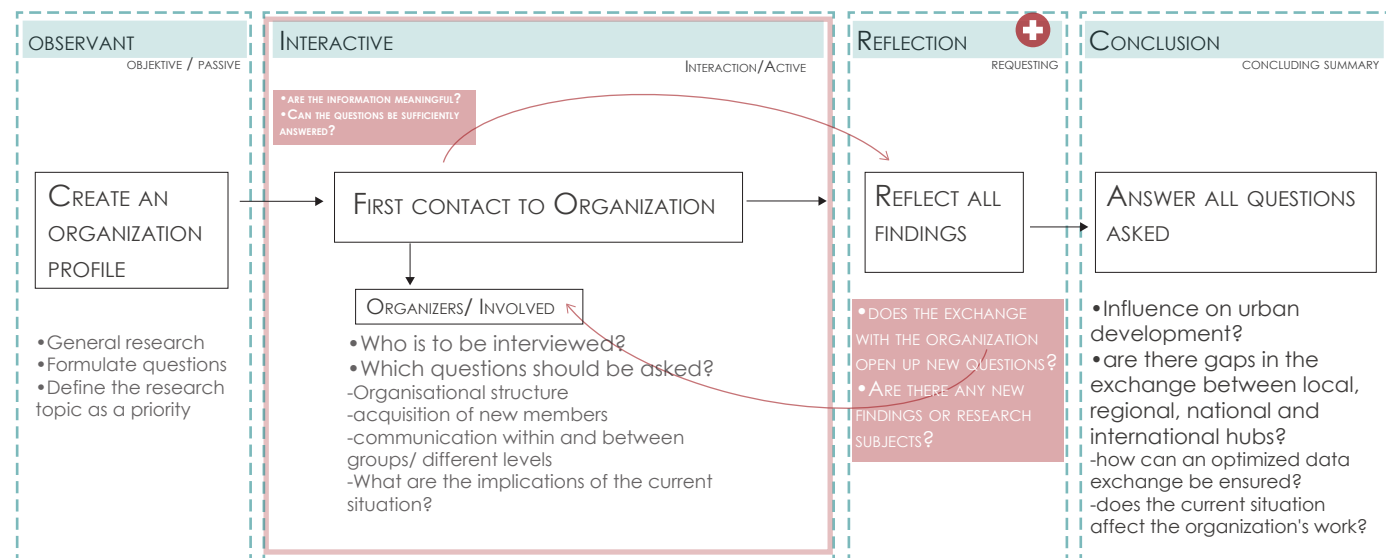


Illustration 7: Flow Chart, Interactive (Own Illustration 2020)

## MAIN OBJECTIVES OF THE STUDY

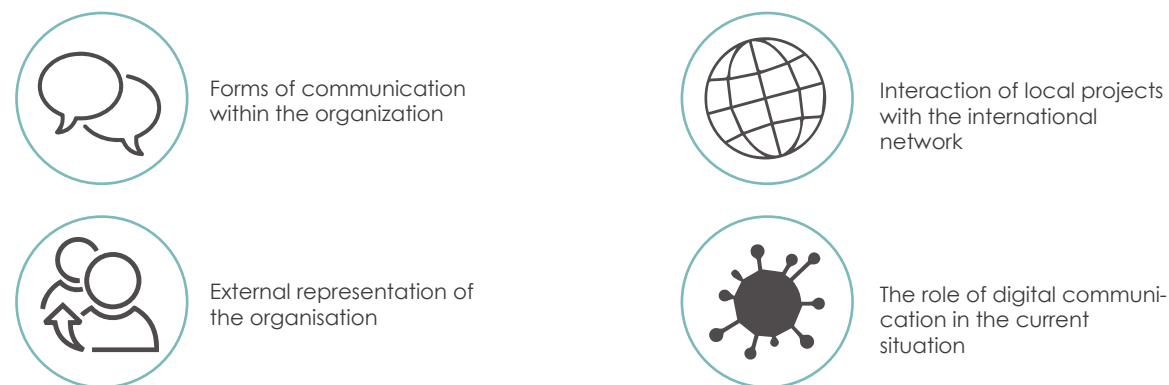


Illustration 8: Main objectives (Own Illustration 2020)

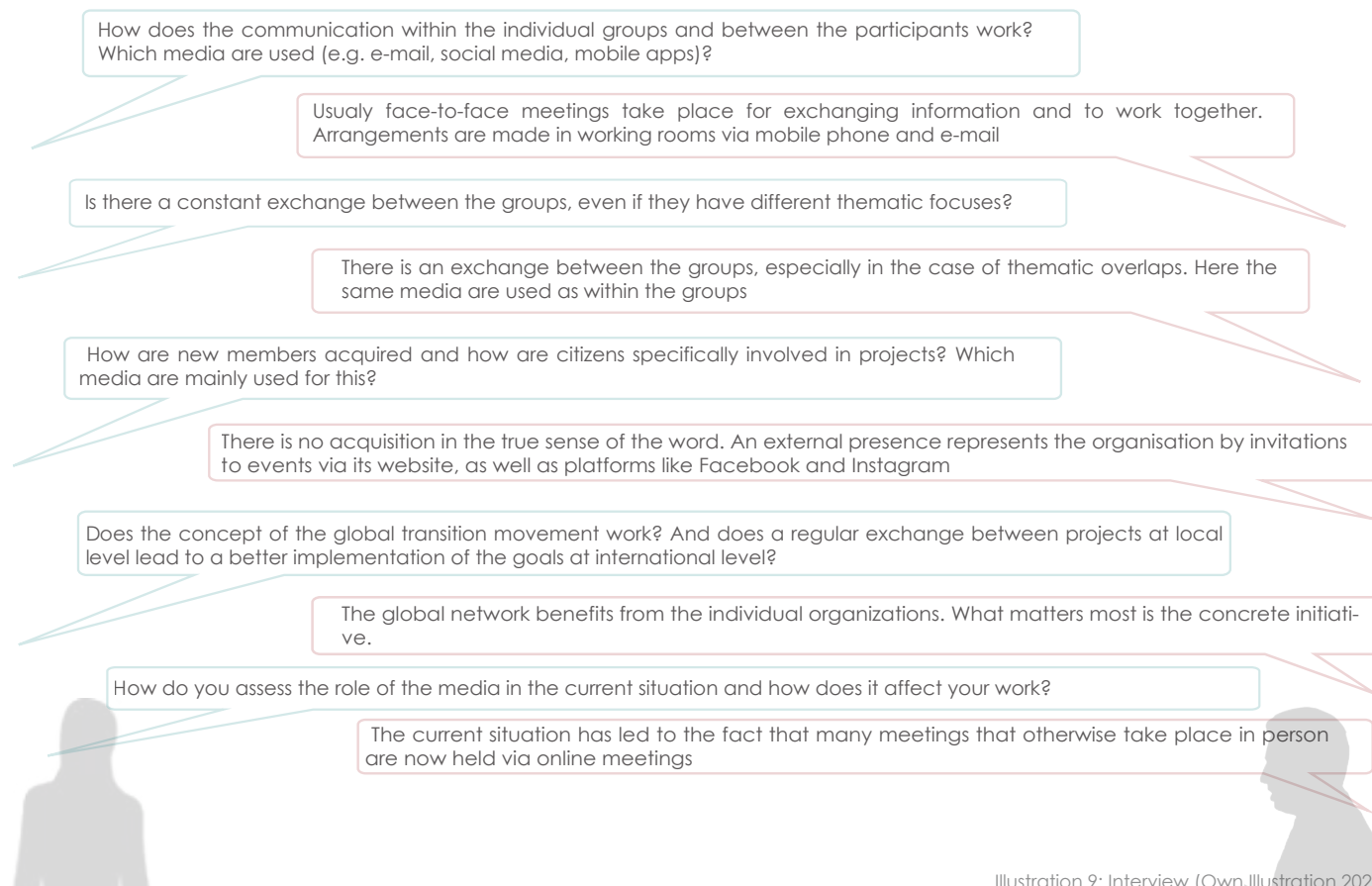
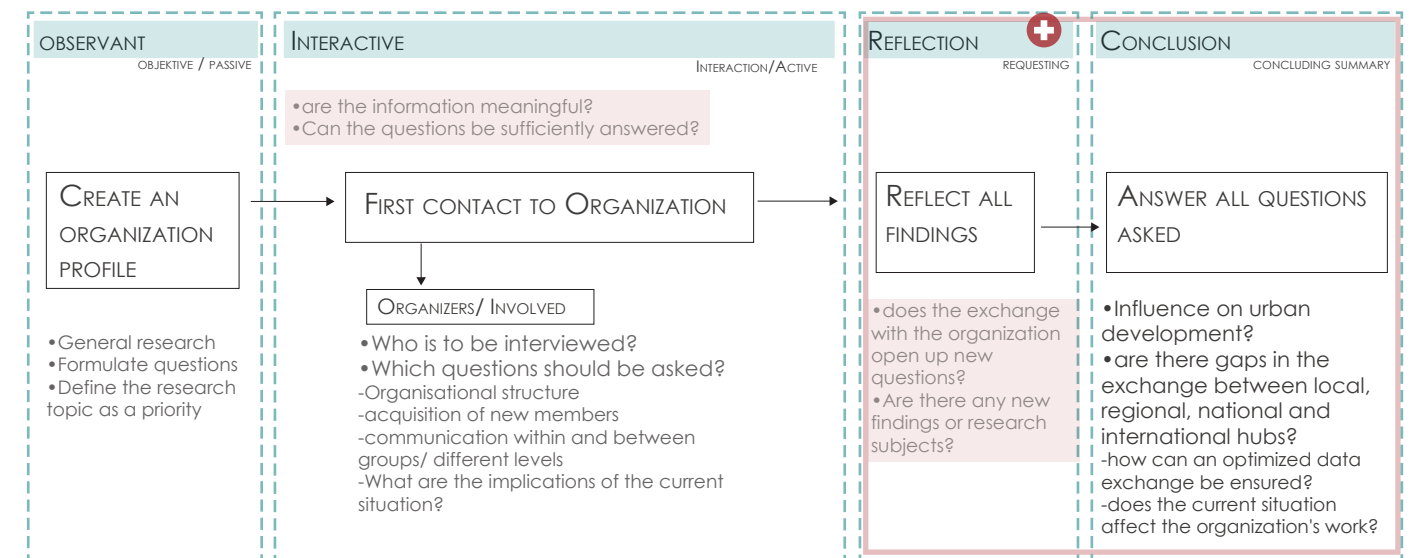


Illustration 9: Interview (Own Illustration 2020)



## Additional questions:

- On which levels does which form of communication take place?
- How does the respective thematic focus affect the communication medium?

Illustration 10: Flow Chart, Reflection and Conclusion (Own Illustration 2020)

## RESULTS FROM THE INVESTIGATION OF THE COMMUNICATION STRUCTURE

local level  
within the groups



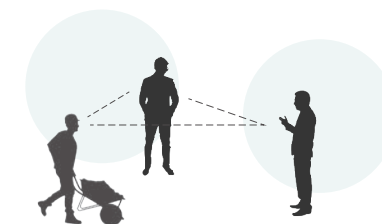
### Main communication medium

- usually face-to-face events
- agreements are made via **mobile phone, e-mail and internet platforms**, where data can be collected, **Video conference (because of the current situation)**

### Arising gaps/ problems

- no uniform communication medium
- digital means are badly regarded by many of the members

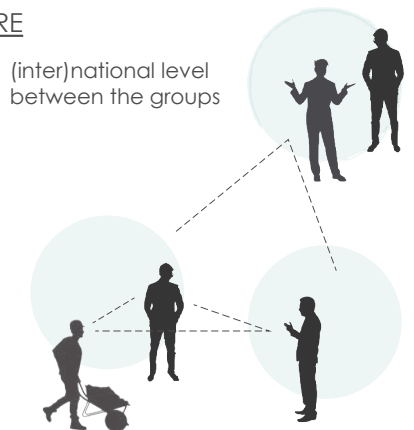
local/ regional level  
between the groups



### Main communication medium

- general meetings of the organisation
- constant exchange between the groups
- **mobile phone, e-mail, internet platforms**,
- An external presence is represented through **invitations to events** via the organizations **website**, as well as **platforms such as Facebook and Instagram, Video conference (because of the current situation)**

(inter)national level  
between the groups



### Main communication medium

- **mobile phone, e-mail, internet platforms (because of the current situation)**
- open network - constant exchange on the same topics also between different organisations

### Arising gaps/ problems

- no regular summing up of the intermediate results. exchange only where contact already exists

Illustration 11: Results (Own Illustration 2020)

## STUDY CONCLUSION

The analysis of the communication network of the organisation Transition Town Hannover shows that the format of the organisation is very much based on personal contact. This is mainly due to the fact that there is a constant exchange of ideas. On many levels the use of media such as telephone and e-mail is sufficient for direct contact. As can be seen from discussions with members of the organisation, the rejection of digital media comes mainly from mistrust regarding data protection. Although the direct communication channel is sufficient for an exchange on existing tasks, it also prevents a stronger exchange on other topics and the possibility of a spontaneous development of ideas on the digital level. Greater use of digital means could be a good complementary tool to extend the scope of the projects.



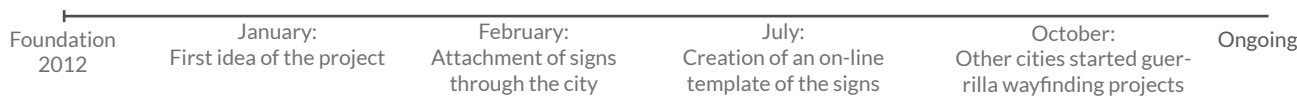
# WALK [YOUR CITY]

RALEIGH, USA | BY MAYARA DE SÁ SIQUEIRA

## PROJECT DESCRIPTION

Walk Your City is an easy-to-use platform (website) created in 2012 by Matt Tomasulo (an urban planning master student at the time) that allows activists around the country to design their own low-cost wayfinding signs. It helps people boost their community's walkability, linking informational street signs for people with web-based campaign management and data collection to complement traditional approaches to wayfinding. The project started in Raleigh, North Carolina; a fast-growing, highly suburban, auto-dependent city in need of an improved walkability. Although it is not possible to change the land use or the infrastructure of a city overnight, the aim of the project was to use urban interventions to provide people more information. The signs over the cities have the names of popular destinations with indications of the time it would take, and they can be placed anywhere. They have also QR that users can scan for detailed directions. The project started with a communication platform via Facebook and Twitter, but with the time it became so big that a website was created where people can print their own signs and change their cities. The project is organized by the city makers (DIY Urbanists), the habitants of the city and the government. They are many times financed by the city initiative but also by crowdfunding.

## PROCESS TIMELINE

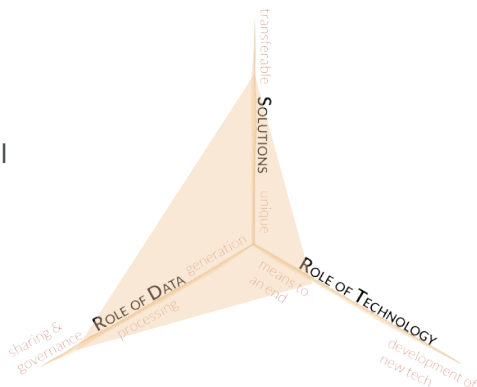


## CITYMAKER

**Type of Citymaker:**  
DIY Urbanist

**Technologies used:**  
Website, Google Maps, Social medias

## TECHNOLOGY



## MODE OF OPERATION

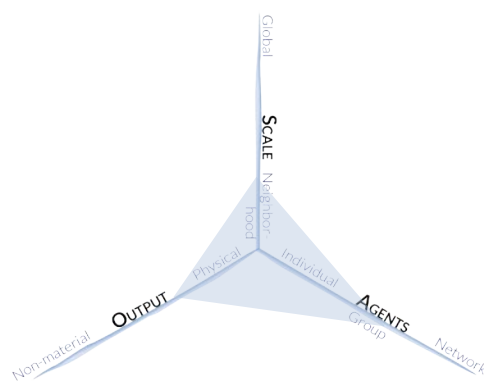


Illustration 3: Technology and Operation (Own Illustration 2020)

## KEY DIMENSIONS

Walk [Your City] is a Bottom-up initiative created by a city maker that aims a positive impact on urban space. The citizens can work together to improve their neighborhood with short-term actions for long-term changes. Such short-term community-based projects, that can be easily made and are also affordable, have become DIY tools in the arsenal of urban activists, land-use planners, and policymakers to make their cities better places to live. The technology play an important role to promote such projects and spread the knowledge about the topic. The cities can gather the data of the citizens to find out the best locations for the new urban modifications. Such projects are often treated as pilots or prototypes to test out different solutions – so they can ultimately invest in what works. Thus solutions that can be transferable to each unique context are created.



Illustration 1: Walk Raleigh sign; (Walk [Your city]) nc. 2020



Illustration 2: Location of the interventions in the USA

## VISUALISATIONS

To achieve the goal of a walkable neighborhood the project needs to be made in a small scale, and the facilities need to be reachable by foot. For a neighborhood be suitable for the WYC campaign the amenities need to be in a radius of 1,5km (max. 20min by foot), if they are further, it means that the signs should be switched to bike mode. On the website people can le-

arn how to identify the best locations for the instalations based on the frequency of the pedestrians in an area and also the best places to install the signs. While traditional wayfinding signs are often targeted towards visitors – helping them navigate to key community attractions – their approach is a bit different. WYC campaigns are typically directed at residents: encouraging people to walk / bike somewhere useful or interesting they might

usually drive, and breaking down their misperceptions about the distances involved. The website also helps the civilians to identify their target group for the project, how to understand their current community context, the type of goals they're working towards, what they need from the public (volunteer, retweets, support at a Council meeting), project a timeline for the development of the project and also assess the progress.

The WYC Process:



Illustration 4: Diagram (Own Illustration 2020)

## CONTEXT AND EFFECTS

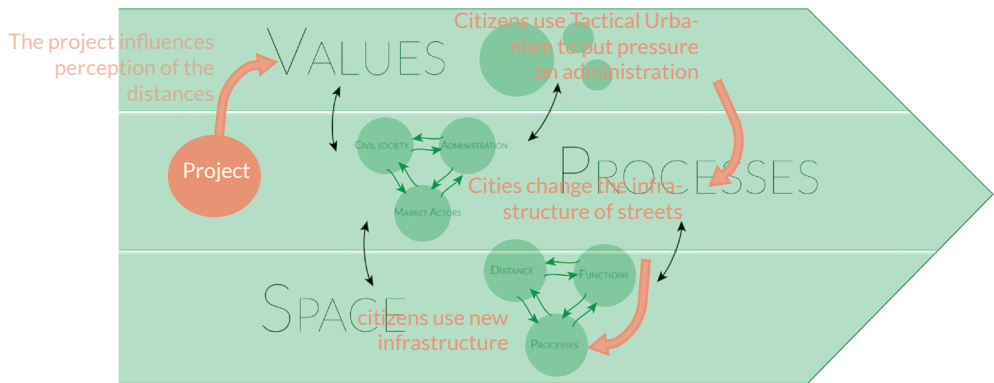


Illustration 5: Effects (Own Illustration 2020)

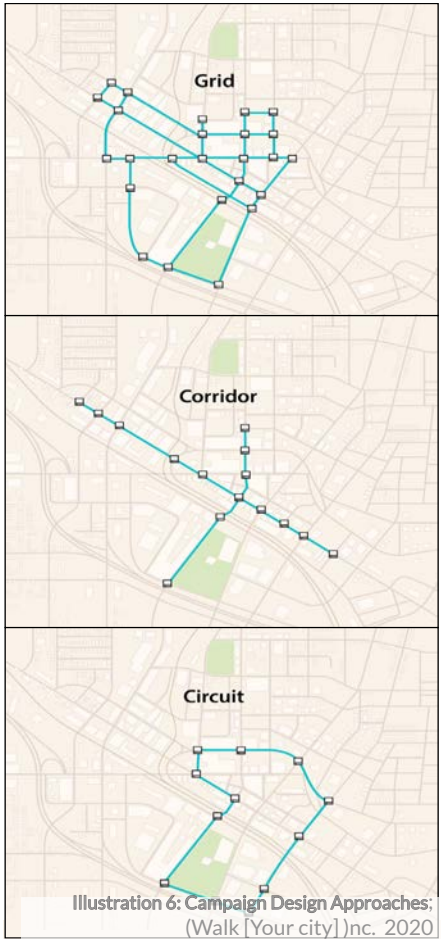


Illustration 6: Campaign Design Approaches; (Walk [Your city]) nc. 2020

## CONCLUSION

When it comes about the values a project can mark to citizens and the change of mobility, WYC is an important tool to stimulate citizens start having conversations about walkability and healthier transportation choices. WYC's impact doesn't stop at street signs, they encourage people to work together in new ways strengthening relationships between residents, non-profits, local businesses, and local government agencies. It also draws attention to perceived shortcomings in policy and physical design and allow people to physically experience alternative options. With such "demonstration projects", the citizens can have the first contact with innovative tactical urbanist projects and governments, non-profits and grassroots groups can make experiments and gather input on potential street design changes.

## RELATION TO OTHER CITYMAKER CASES

Walk your city is in many aspects similar to the other projects presented during the course. Like many of them, WYC is organized by citizens, that want to make the difference in their city. Some of them are also small interventions where everyone can participate and have access to the data. Although the many common points, the projects have also many differences, like the scale (some projects are global, some happen in an entire city, but some just in a neighborhood), the organizers (some are organized by the civil society, some by the public initiative, etc), the approach to the project (some deal with space itself, other with mobility for example) and some are more technological than others. When comparing all the cases, it is possible to learn a little more about all the agents that can be involved in the creation of the projects as well as the many ways people can use the technology to improve their community.



THE PROCESS BEHIND THE INTERVENTION

WYC is a good example of how the tactical urbanism is improving the cities and the government is really paying attention to it, while turning homemade infrastructure changes into permanent solutions. There are so many new types of public demands, and cities have a hard time responding in a way that's nimble. Therefore, the citizens across the world that are frustrated by the slow and traditional civic change process, are bypassing the bureaucracy entirely and undertaking quick, low-cost city improvements without government sanction. Consequently, cities are increasingly adopting the Tactical Urbanism approach to experiment, innovate, and test out different solutions – so they can ultimately invest in what works. Thus, the WYC platform also helps the city to improve its services to the public, by sharing data between the population and the city organization. This facilitates access to the ideas that worked so that they can be reused in other projects. The project also collects data through the number of scans of the QR code on the plates, which allows to find out which amenities are more frequented than others. In this way, planners can predict the best locations for future interventions.

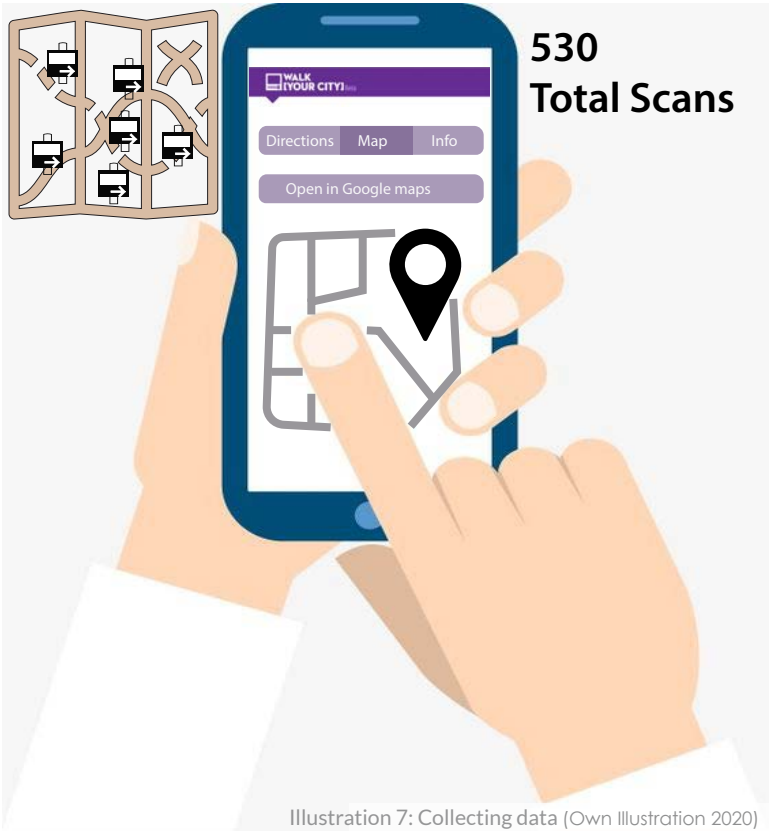


Illustration 7: Collecting data (Own Illustration 2020)

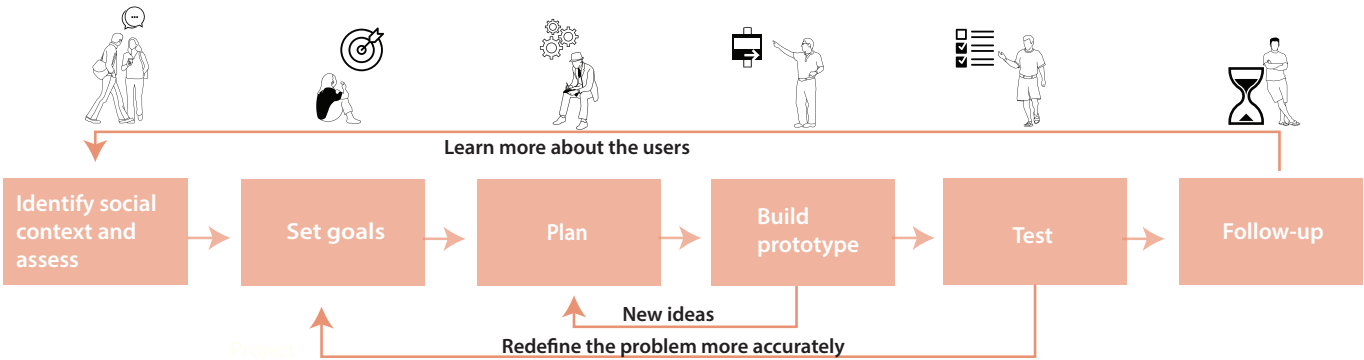


Illustration 8: Stages of creation of the experiments (Own Illustration 2020)

GOVERNING THROUGH EXPERIMENTATION

WYC illustrates a relevant topic that is being every day more discussed by the cities. Cities around the world are looking for ways to address the true needs of their citizens, with a deep level of engagement and co-agency. A government that uses good strategies to support such projects (investing the necessary amount, informing the citizens, and actively involving them in the city's decision-making processes) can scale up such experiments. When the experiments get to be stabilized, its configuration becomes permanent; but even when they are not scaled up, the element can be reused and help to redefine a different experiment. After the first intervention of the WYC pro-

ject, a community petition was created and a formal pilot project, WalkRaleigh, was ultimately written into the city's Comprehensive Pedestrian Plan. It shows how the people were interested on it and the city was willing to solve the problems of walkability. In the case studies (like the "Mount Hope" in west virginia, the "house creek trail" in Raleigh and "Southside" in Durham) where the project was successfully installed, WYC used the help of the city staff, the residents and small business owners to study the best options and destinations for a potential campaign. When the government is willing to engage different partners for the strategies and provide resource, they can help to create a long-term trend. WYC shows how citizen engagement can deliver new forms of deliberation and operationalisation

of the democratic process in the city, increasing local impact and building citizen trust. Without citizen engagement, the cities would lack of community support for public measures, what would lead to suboptimal results.



Illustration 9: Parts involved in the projects (Own Illustration 2020)

IMPACT & EFFECTIVENESS

An important topic addressed by the project is the role of the government and the civil society. Even though the civil society can be more creative about what is needed to be done, there is still the necessity of the investment of the public government to change the dynamic of everything. The project can be created and implemented just with the help of the community, but to achieve



Dimensions: 12 in x 12 in  
Estimated cost: 20\$ per sign  
Overview: Colorplast wayfinding signs designed for easy application and removal for temporary projects

Demo (1 day - 1 month \$)	Pilot (1 month - 1 year \$\$)	Interim (1 - 5 years \$\$\$)
Can be led by anyone (citizens, city or both)	Led by Government/organizational leadership + involvement required	Led by Government/organizational leadership + involvement required
Can be sanctioned or unsanctioned	Always sanctioned	Always sanctioned
Low-cost. Can be borrowed or easily made	Relatively low-cost, but semi-durable materials	Low-moderated cost materials, with maintenance needs
Public input + Public action	Public input, government/organizational stewardship	Public input, government/organizational stewardship
High flexibility of design (Organizers expect project to be adjusted and removed)	High flexibility of design (Organizers expect project to be adjusted, it may be removed if does not meet goals)	Moderate flexibility of design (Organizers expect project to be adjusted, but it is intended to remain in place)
Data should be collected (to refine approach for current and future projects)	Data must be collected (to refine approach for current and future projects)	Data must be collected (to refine approach for current and future projects)

Terms and diagram format based of the informations given on the "Tactical urbanist's guide". URL: <http://tacticalurbanismguide.com/>

Illustration 11: Progression of the project (Own Illustration 2020)

FINAL CONSIDERATIONS

After reaching 45 states, 6 continents and 38 countries, WYC proves that when the civil society work together, even in small scale projects, they are able to contribute to a large network. Tactical urbanism is not anti-government. It can in fact be a powerful tool for municipalities. Instead of creating huge, costly 20-year master plans for civic improvements, cities can try a piece-by-piece "see what works" approach, incorporating public feedback. It helps better understand and address the needs and concerns of citizens.

This project enables possible multilevel governance configurations and interactions, explaining what can happen, which increases transparency in various decision-making processes. It is also a gateway to deeper civic engagement, where everyone can participate of urban development programs, from the bottom up, to achieve an urban transition. It builds trust and consensus in the community and, therefore, strengthen the legitimacy of the actions taken and increase long-term success. More creative and sustainable solutions can be achieved with the citizens' perspectives, and during this process, the cities can learn from each other and always import and export the best practices. For this reason, having as many participants engaged in the projects as possible can help in the success of the same. WYC shows us that, through the use of technology, we are able to impact the society with a low cost.

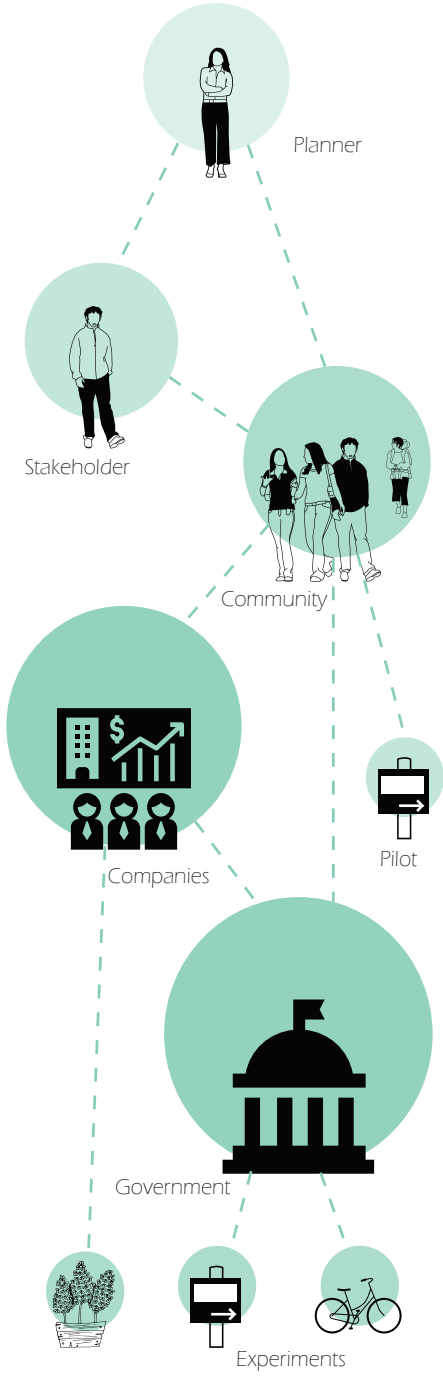


Illustration 10: Levels of influence (Own Illustration 2020)



# HANNOVER VOIDS

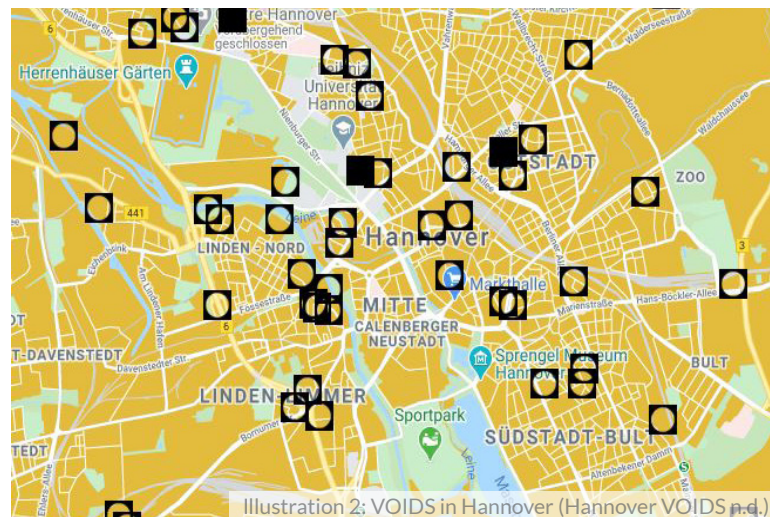
HANNOVER, GERMANY | BY MAREK WALDSCHMIDT

A Void is an underused space in a city, which should not be understood as an empty space, but as a space of possibility. In their different forms, these spaces offer potential for future uses and developments and designs. By pointing out these spaces, Hannover Voids (HV) would like to anchor these spaces of possibility in the consciousness of the people of Hanover and in this way encourage them to take a closer look at their own city.

There are many underused places in Hannover, which offer great potential for urban development but are currently not being considered. The aim of HV is to make these places visible as spaces of possibility and to use them together.

The idea of HV originated from a course of the Faculty of Architecture at Leibniz Universität Hannover. Since its foundation on 18.10.2017, there are around 30 students who have been involved in the project and would like to demonstrate Hannover's potential beyond their studies.

HV encourage with tools and actions to experiment with VOIDS in an open-ended way. The citizens of Hannover can think about possible uses and designs of the VOIDS and communicate, discuss and try them out through HV.



## PROCESS TIMELINE

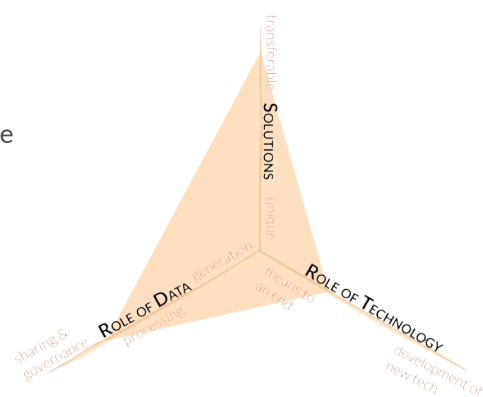


## CITYMAKER

**Type of Citymaker:**  
Developer, DIY Citymaker

**Technologies used:**  
website, social media, online networking

## TECHNOLOGY



## KEY DIMENSIONS

I have assigned the voidlings to the Developer and DIY Urbanists, because they want to animate the inhabitants of Hannover to actively participate in shaping the city, but also to realize their own projects. They use technologies like their own website to draw attention to the underused places in Hannover. Everyone can upload a photo of a place they have discovered, describe it and thus draw attention to this place. The group, consisting of 21 alumni and students, acts locally. As citizens of the City of Hannover they want to change the city they live in. This makes the project very authentic. The results can be both non-material, in that visitors to the website get a different view of your city and the desire to help shape it. If places are redesigned or if the voidlings take a hand themselves, it can of course also be a physical output.

## MODE OF OPERATION

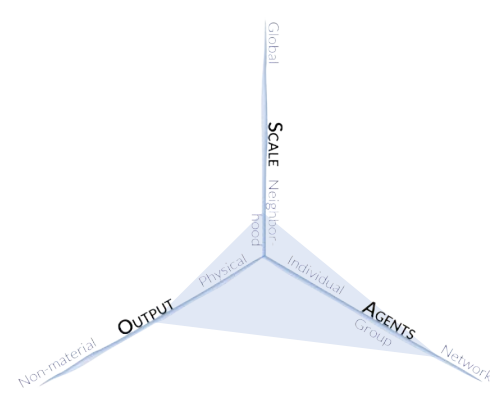


Illustration 3: Technology and Operation (Own Illustration 2020)

## VISUALISATIONS

On the website hannover-voids.de underused places can be suggested and described. These will be published and should at best encourage citizens of the city of Hannover to help shape their city. It can also work the other way around. Citizens suggest a place and publish it on the website. These processes can show the city govern-

ment that the citizens have the need to help shape their city. In the best case, this will lead to the city starting projects that address the potential of open spaces in the city. By making funds available or arranging sponsorship, professionals can also be consulted who develop concepts together with the citizens. Figure number 5 shows the publication date of the projects presented online over time. A constant

development cannot be seen. Possibly the publication dates on the website are not correct. However, there are also not infinitely underused places in Hannover, so that at some point almost all places should be shown. Altogether 79 projects are shown, 5 of them could already be converted.

## CONTEXT AND EFFECTS

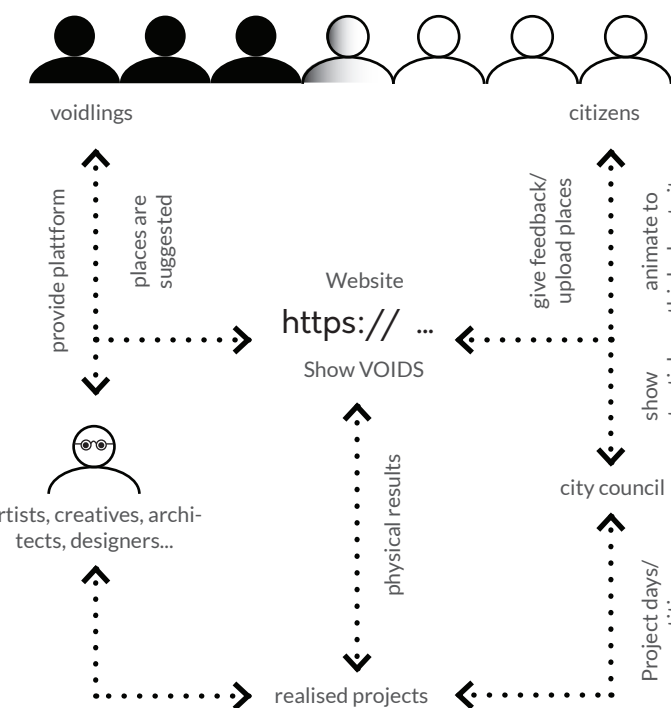


Illustration 4: interactions (Own Illustration 2020)

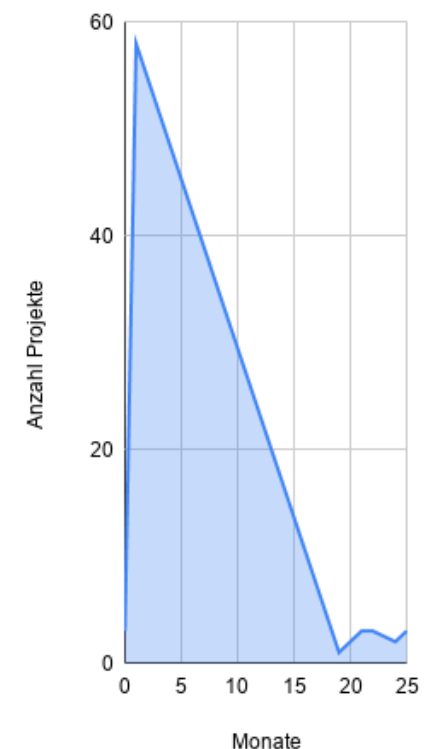


Illustration 5: published projects (Own Illustration 2020)

## CONCLUSION

For HV the right to a city means that everyone can participate in the shaping of their city. They make it easier for Hannoverians to share their ideas for the urban space and actively participate in its development. They believe that in this way the citizens will be able to deal with their city more extensively and deal with it in a creative, responsible and sustainable way. The experiments with VOIDS may give rise to ideas for interim and conversion uses in the long term. For the joint further development and implementation of the impulses, accomplices and supporters can be found through us. Together, projects are easier to realize, because the participants bring along energy and a variety of skills and experiences.

## RELATION TO OTHER CITYMAKER CASES

Comparing to other City Makers, Hannover Voids is a real Bottom-Up project, which does not have the goal to gain money at anytime. They want to built up a Network for citizens an initiatives, which would like to appropriate un- or underused spaces in the city of Hannover. The digital aspect like the website, where citizens have also the possibility to take part in the virtual creation of voids and rise up ideas, is more a memory than the room where creativity an networks will grow. The experiences of the people of hannover voids is, if you want people to inspire getting creative in their city you need more than a website. There really has to be an intervention in real life. Just in this way you can share creativity and maybe a group will connect, which take responsibility for a place and design it. This is very elaborate and time consuming.





Illustration 6: Maximilian Heise  
(Hannover VOIDS n.d.)

What was the last project of Hannover Voids?

**MH:** The last project has even been a Corona project and is called *Freiraum mit Abstand* on our website. This has actually been one of my favourite projects lately. Even though I was not involved in it myself. The project arose from a spontaneous idea for urban space and was subsequently used by people in an incalculable way. There is the so-called „Schmücki“. This is a triangular square in Linden, for which we spontaneously had the ideas to determine with chalk circles the maximum number of people who can stay on this square. Two people from our group went and filled the whole square with chalk circles. There was a nice GIF of it, which is now available on our website. You can see it under actions. When I drove by later to have a look at it, I saw how cyclists with their fixies took over this place and tried to do tricks on these circles and ride backwards over the radius of this circle. Other people sat down in different circles and just found new uses for this place and stayed there just because we came up with the idea to draw chalk spinning tops on the place. Thus, a place that is not a void at all, because it is already in use, becomes much more potential through a small intervention. I liked that very much. Minimal intervention opened the eyes of the people here to what you can do in your city. This is an example of a thought that we tried to pursue after Corona, but which we have not yet been able to implement.

Do tell...

**MH:** Hanover as a „theme park“. The point is that recently the playgrounds and public sports facilities were closed. All these places where people can otherwise let off steam. Moreover, in the cityscape one has noticed public conversations where people have been talking about the fact that now there is nowhere else to go. Kendra (initiator of Hannover Voids) had some situations with young mothers who didn't know where to go because the playgrounds were all closed. But we are such a troupe that walks through the city every day and, because she has trained her gaze in the meantime, sees places with potential everywhere. So we started to gather together where in Hannover you can do sports, find peace and quiet and play with children for free and without violating corona rules. We just threw together our first ideas and found a lot of places in this short brainstorming: Water islands at the feet where you could build water castles or play robbers and gendarmes. A wall at the south stadium, where Kendra always goes to play tennis. I can find some places where you can train parkours. Because I'm someone who says I'm never going to spend money on a gym in my life because I have everything in town. So you can think of this city as an amusement park or a training ground, but you have to get it across

*In the context of the research field „Digital City Makers“ I chose the project Hannover Voids as a case study and asked myself the research question what the motivation of Hannover Voids is to do what they do and whether it changes the citizens' view of their city. The project developed from a teaching module at the Faculty of Architecture at Leibniz Universität Hannover. Volunteers, initially about 30 people, now more like 10, who are still studying or working in the creative industry, meet about once a month to exchange new ideas and experiences. In an online interview I spoke with Maximilian Heise. Maximilian has been with HAnnover Voids from the beginning and works full-time as a project manager at ecovillage, a housing project in Hannover, where a sustainable settlement with about 700 housing units is to be built. His involvement at Hannover Voids is voluntary. The following text shows only an excerpt of the conversation on the 8th of July lasting about 15 minutes.*

to people somehow. Just like the chalk spinning tops showed the cyclists that you can train on this place. So we had thought about distributing more tips in the city. For example to paint a big chalk arrow on the ground and write: „Ingenious climbing tree! Look to the right!“ Or hand out a small map to each of these places, which lists them all together or puts them on our website. That's what we thought. The loosening up came faster than expected. So the project is currently on hold, but the idea is still there. This has been one of the things we've been working on most lately. Our basic goal is to make such places visible for people, and we are still going online. It needs a digital backbone. But at the moment we are also thinking a lot about how extensive this must actually be. The way our website is built at the moment and the whole IT and infrastructure is just incredibly complicated, bloated and obstructive. So we thought about how little it actually needs. Maybe an Instagram feed would be enough, but that wouldn't be very accessibility-friendly, because not everyone has Instagram and even older people might not know how to use it. We think a lot about this. But somehow it needs a memory. Somewhere we want to see all these places gathered together to give people an overview of what can be done in this city.

**I think the idea behind the website to upload a void yourself is really cool, because it can also inspire you to help shape the city. And if only by uploading pictures. How do you get even more people to participate and become interested in your city? Many people don't care about what happens to urban space.**

**MH:** I'll start with our website. When we set it up, in January 2018, we had some pretty high-flying ideas about what's going to happen with this website. And we thought that people were submitting voids and ideas and we were just processing and sorting all the time. No chance. Not a single person has ever submitted a void and over the two years, three or four ideas have come in and they were all from the university environment. We're thinking hard about simply abolishing this feature and simply referring to our contact page. Because no one will bother to fill out this profile. Now you can of course ask if this is a symptom of the fact that people just don't care about how their city is designed. But I don't think so. It's just too high-threshold. And to address the question of how to get a lot more people to get involved in your city... I found the idea of an amusement park so compelling. Because it makes a small change right in the urban space. People stumble over it and immediately have something they can try out. The climbing tree, for example - if you're just walking past it with your child, why not let them climb it and -bang- you've saved the place. It's very easy. You don't need a profile for or a website - nothing. I think

that it needs much more direct intervention in the urban space, that is, much more visualization, to make people with their noses aware of what is possible in this city. And then, little by little, people develop a different view. That is the first step. Before I start to actively create a city, I have to be interested in my city. And you probably know this yourself from your normal environment in which you move around daily. At some point you don't look anymore. The place where you move, the things you do. At some point it becomes normal, it becomes routine, maybe it even gets boring. You stop looking. Everyone does. And that's why this visualization is the most important first step. Just putting on those glasses again, the people who first see the potential of such spaces. And then hopefully an interest is aroused. And if people perceive and use this one new place, then they already have an idea that this could be possible in many more places in Hannover. In my eyes this is actually the most important step we are taking. Bringing people together in a really active way to participate, to motivate them to collect ideas, that's what you need. It takes days like our action in the gap between buildings on the Safranswiese, where we have built furniture together with the people, put up flower beds and now a small neighbourhood scene has come together and is taking care of it and has accepted and used the thing. But that is because the people have partly built with us, that we were a few days on the spot and made remmidemmi and were visible. So that means a relatively high level of commitment. Then it can be that people really become active. Taking responsibility for a place like this all the time. But the most important step that we at Hannover Voids can do is to make it visible and to stimulate interest. And when people discover places for themselves, they wear these glasses. And then something is already won.

**An online platform is therefore not enough to motivate citizens to become active themselves, right?**

**MH:** In the beginning we thought: Our website is the burner, it is a huge hit. And we put a lot of energy into publicity. But we had to realize that the website is just a memory. If we ever write a research report or appear on 12minutes.me, you need something like that. A memory that shows how many places there are in Hannover and what we have already done. Everything that motivates people has to happen through active work. In the urban space, on site.

o o o

CONCLUSION OF THE INTERVIEW

The interview with Maximilian Heise changed my view of the Hannover Voids project. Hannover Voids is still a city-building project, but the use of digital tools plays a smaller role than initially thought. Hannover Voids acts as a mediator, teacher and pointing out potentials in the city of Hannover. Their work and experience is now used and appreciated by the city administration, they offer further training for adults and working groups in schools. It is obvious that the involved people act out of conviction and that recognition and a say in urban design can be a driving force. The website only serves as a memory and exhibition in the digital world, but is not enough to motivate citizens to actively shape their city. For this reason, the context diagram has changed as follows.

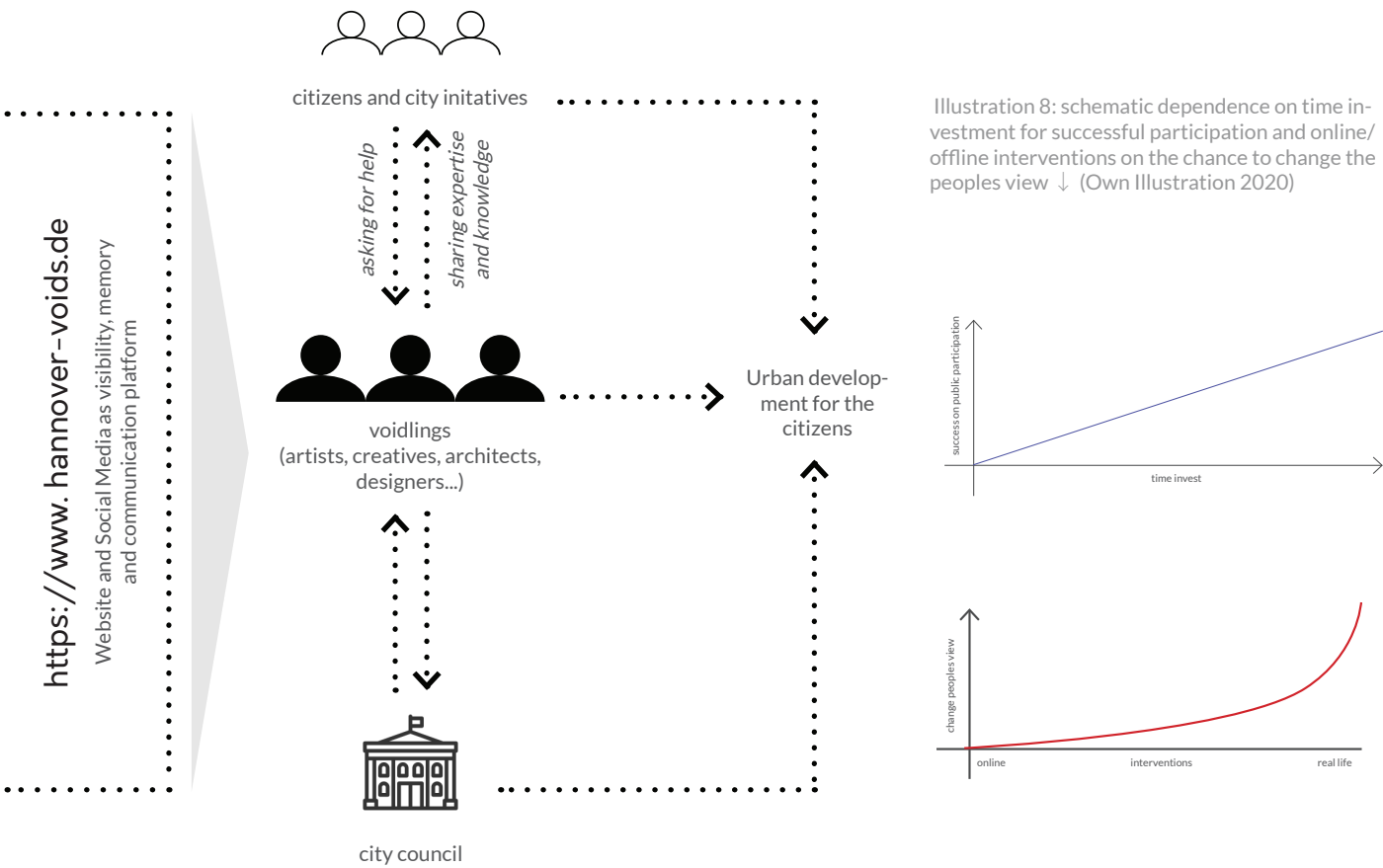


Illustration 8: schematic dependence on time investment for successful participation and online/offline interventions on the chance to change the people's view ↓ (Own Illustration 2020)

COMPARING ONLINE & REAL LIFE INTERVENTIONS AT HANNOVER VOIDS

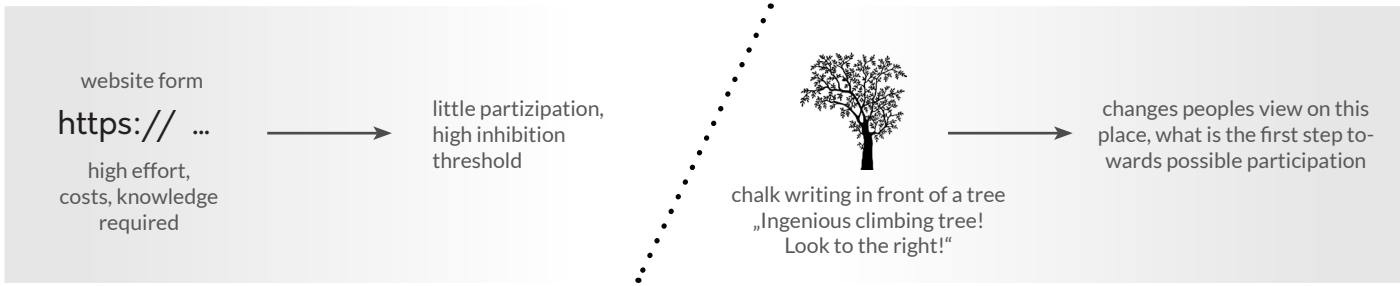


Illustration 9: Chalk circles on a public space in Hannover (Hannover VOIDS n.d.)



Illustration 10: Building furniture on a Void called Safranswiese (Hannover VOIDS n.d.)



Illustration 11: temporary pavilion in front of the faculty of architecture (Hannover VOIDS n.d.)



# OKLABS BONN

AACHEN, GERMANY | BY ILKIN KAVI

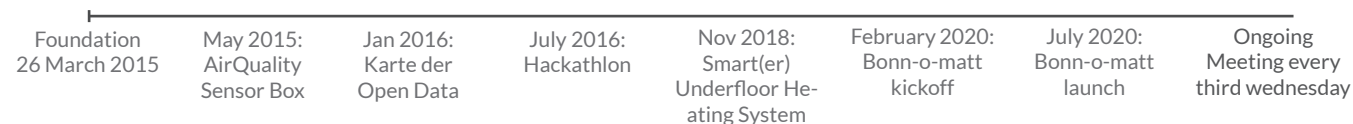
## PROJECT DESCRIPTION

The Open Knowledge Labs (OK Labs) are local groups of people who use their technical skills to positively influence our society. They meet regularly to jointly develop software applications and visualizations for their city. The applications and tools help to simplify the everyday life of citizens, enable participation or improve communication between the government and it's citizens. Many applications are based on open administrative data such as financial data, environmental data, data on education, local transport or statistical data. These data can be used to create applications and tools such as: citizen builds city a page for planned construction projects in Berlin, small sparrow a kindergarten map from Ulm or open household an open source financial visualization.

The local labs are part of a national and international network of mentors and like-minded people. Each OK Lab consists of members and lab leads.

OK Labs Bonn was founded in March 2015 and since then it has been one of the most active Labs in Germany. Made several projects like Bonn-o-Matt to help public or like Map of Open Knowledge to help developers to reach information easier.

## PROCESS TIMELINE

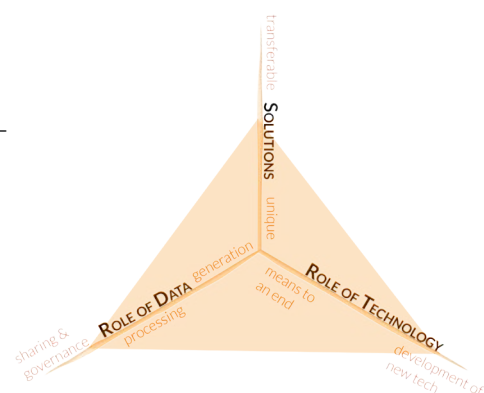


## CITYMAKER

Type of Citymaker:  
Data Activist

Technologies used:  
mapping, apps, websites, open-knowledge

## TECHNOLOGY



## KEY DIMENSIONS

**We don't need to reinvent the wheel.** In Germany there are now OK Labs in 25 locations where code bases or hardware has been developed. Whether fine dust sensor or drinking water analysis, all projects can be further developed or adopted for local regional use. Everybody can contribute his own projects. The advantage is that these can be developed faster in the OK Labs with several active people. On the Code for Germany project page, as well as on Twitter and Facebook, there is also the possibility to make the results more visible to a larger audience throughout Germany and accessible to interested parties.



## OK LAB BONN RHEIN SIEG

Illustration 1: OK Labs Bonn Logo (OK Lab Bonn, n.d.)



Illustration 2: Site and scale of the project (Code for Germany n.d.)

## MODE OF OPERATION

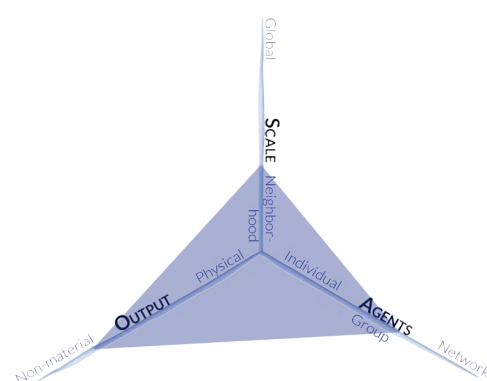


Illustration 3: Technology and Operation (Own Illustration 2020)

## VISUALISATIONS

OK Labs Bonn works mostly like the other OK Labs throughout in Germany. They meet monthly and exchange ideas. Anyone with an idea to present can join these meetings, they are open to public and they announce the place and time on their websites. These gatherings don't have any predefined content. The „self-made“ aspect is paramount and can take many forms



Illustration 4: Bonn-o-matt and Lokalwirkt logos (OK Lab Bonn n.d.)

## CONTEXT AND EFFECTS

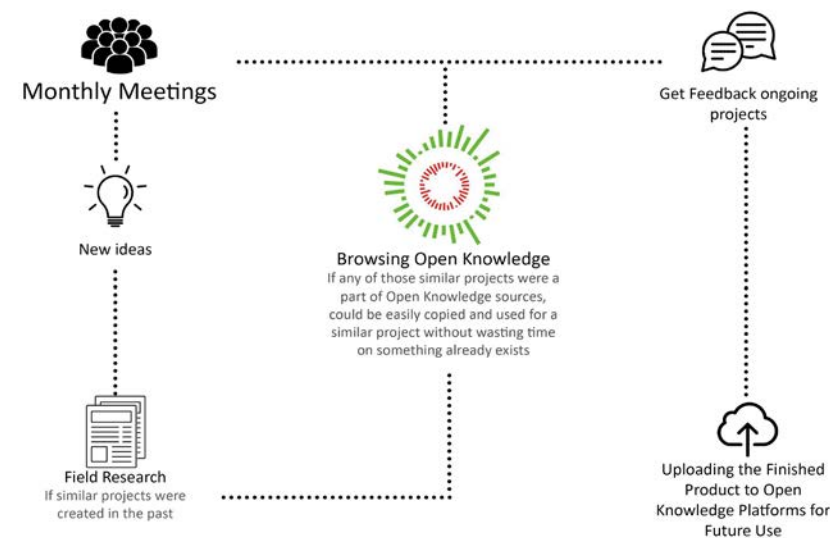


Illustration 5: Workflow of OK Labs (Own Illustration 2020)

## CONCLUSION

As the physical barriers of the world is being lifted by new technology being invented every day, knowledge also becomes easier to acquire. However not many people are familiar with Open Knowledge and OK Labs are a way to make more people excited about Open Data and Civic Tech, to give communities more visibility and networking: Many cities already have people or groups working on applications and projects related to open data. Code for Germany creates an infrastructure to network them with each other and to enable an exchange. In addition, the program supports local communities in their communication with government, institutions and the public.

## RELATION TO OTHER CITYMAKER CASES

OK Labs is in general a good representation of „data activist“ city maker. However as it has been looked more thoroughly, it possesses qualities also from „developer“ category. Both city makers use open data to further their gain, but OK labs doesn't just use online presence for their activism. In relation to other city makers, which are „community manager“ and „DIY Urbanist“, it can be observed that OK Labs mostly supported by these city managers. OK Labs could realise DIY Urbanist's ideas, since they aren't experts in technology. This could create a very profitable cycle for both of these city makers where they benefit from each others expertise.

Down in the illustrations you can see some examples of the projects created by OK Labs Bonn Rhein Sieg. Although most of them work locally there are some projects contribute to society more nation or worldwide. One of the most extensive projects OK Labs Bonn created is Bonn-o-matt is a service for political education. This project will be later explained further later in this case study.

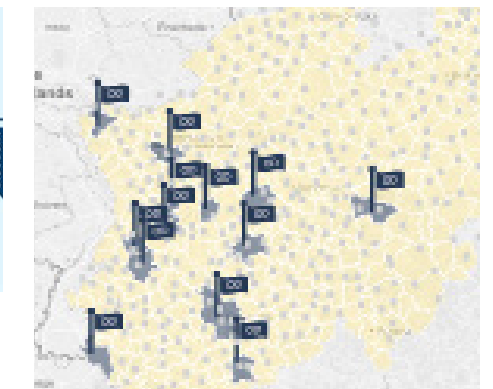


Illustration 6: Karte der Open Data (Paderta n.d.)

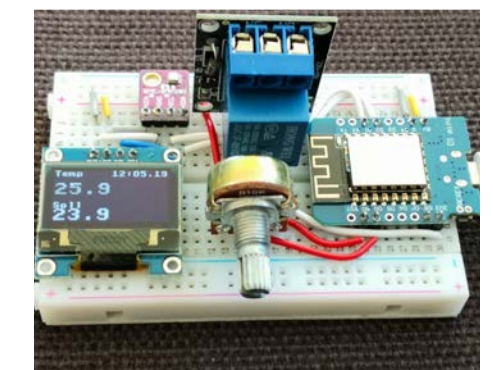


Illustration 7: Smart(er) underfloor heating system prototype (Hense n.d.)



## A DEEPER DIVE INTO HOW OK LABS WORK

As mentioned before every Lab has a Lablead and they work locally with like minded people with same local problems as they are. The leads organize meetings, take care of the communication channels of the lab, are contact persons and hub to the wider network. The labs are independent groups, with their own communication channels such as websites, etherpads or Twitter accounts. When and where the next meeting of the OK Labs takes place or which projects the individual teams are currently working on can be followed on the pages of the respective Labs.

The very basic idea behind the OK Labs is to encourage reusage of knowledge that already exist. Some cities already have Open Data programs and provide first data sets openly, but in many places there is still a lack of applications and examples that demonstrate the practical use of open data - this is exactly where Code for Germany comes in. The OK Labs use local data and build applications and visualizations, stimulating the further opening of data sets.

(About. (n.d.). Retrieved July 10, 2020, from <https://www.codefor.de/en/ueber/>)



Illustration 8: Über uns. (Code for Bonn n.d.)

## COMMUNICATION BETWEEN LABS

An online survey has conducted about how the communication between different OK Labs take place. The survey was sent to the different labs to get some more insight on the usage of the Open Knowledge and has it been actually useful for them to access each others data. However by the time this article has written there is only one response to this survey from OK Labs Karlsruhe. According to them, the OK Labs are in contact in person rarely and the projects they're involved so far hasn't been downloaded in and Open Knowledge platform. On the other hand, while they were working on their projects they have stated that they've used some other projects data from other OK Labs such as „Klimawatch“ from OK Labs Münster and „Trinkwasser“ from open data Heilbron.

The usage of Open Knowledge also can be seen in the project Bonn-O-Mat, which based its software from a previous project of OK Labs Bonn. So it can be seen that OK Labs don't only use other Open Data but also their own well functioning softwares again.

## OPEN HARDWARE

Open source hardware is a term for machines, devices or other physical objects with openly accessible blueprints that anyone can study, modify, redistribute and use. Ideally, open source hardware uses readily available components and materials, standard processes, open infrastructure, and freely usable content so that everyone has the ability to build and use the hardware.

An example for open hardware usage is „Smart(er) Underfloor Heating System“ which was developed by Wido Wirsam with OK Labs Bonn's involment. They've built a microcontroller-based IoT thermostat device that measures temperature and transfers the values to a backend. The backend analyses these values and computes an individual program with instructions that is sent back to the device.

The hardware components have been taken from open source hardware providers such as Arduino and SparkFun. (Open Hardware n.d.)

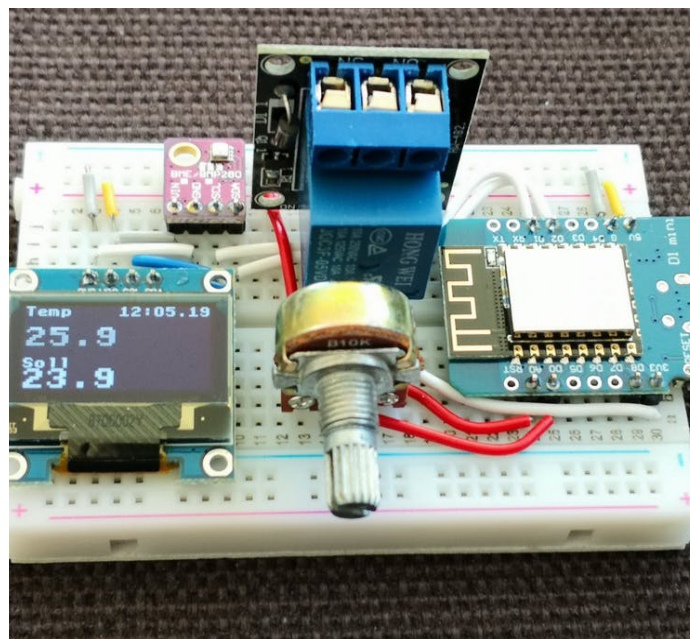


Illustration 9: Smart(er) underfloor heating system prototype (Hense n.d.)

## THE BONN - O - MAT

The bonn-o-mat is in the service of political education. It wants to give the citizens of Bonn the possibility to inform themselves about important political topics and positions of the election alliances and parties. The bonn-o-mat does not give any election recommendation, but only offers an orientation.

The bonn-o-mat consists of the software Mat-O-Wahl that has already proven itself in many projects and the procedure respectively the website bonn-o-mat. The last two points are a development of the Open Knowledge Labs Bonn-Rhein-Sieg.

Bonn-O-Mat was first used in the 13th of September 2015 on the local elections. Now they are getting ready for local elections for Bonn 2020. They will be launching the application 17th of July 2020. (Bonn-o-mat 2020)



Evaluating propositions

You will be shown 30 propositions one after the other, which you can answer with;



concur  
disagree  
never mind/not sure  
skip



You can always jump back and change your position.



Double weighting of propositions

You can double weight especially important propositions.

At the end you will receive an overview of the matches of your positions, which you can change later

(Bonn-o-mat 2020)

## HOW ARE THE PROPOSITIONS DEVELOPED?

The propositions are developed in workshops together with citizens from Bonn. These theses are then answered by the parties.

Before publication, the parties are asked to comment on the theses and explain their positions. The answers are thus authorized by the parties and are not changed.

Afterwards the 30 propositions which are best suited to distinguish the parties from each other but also relevant for Bonn are selected.

In the first open proposal workshop on May 4, it has been worked out about 140 proposals via video conference with 15 participants. In two successive sessions, three sub-groups were formed in each of which theses were discussed and formulated. The assignment of the participants to the groups was done randomly.

At the end of the two sessions, all theses were copied onto the joint board and then collaboratively clustered according to topic areas such as „social“ or „economy“ to get an overview and to make possible gaps in the areas visible. (Bonn-o-mat 2020)

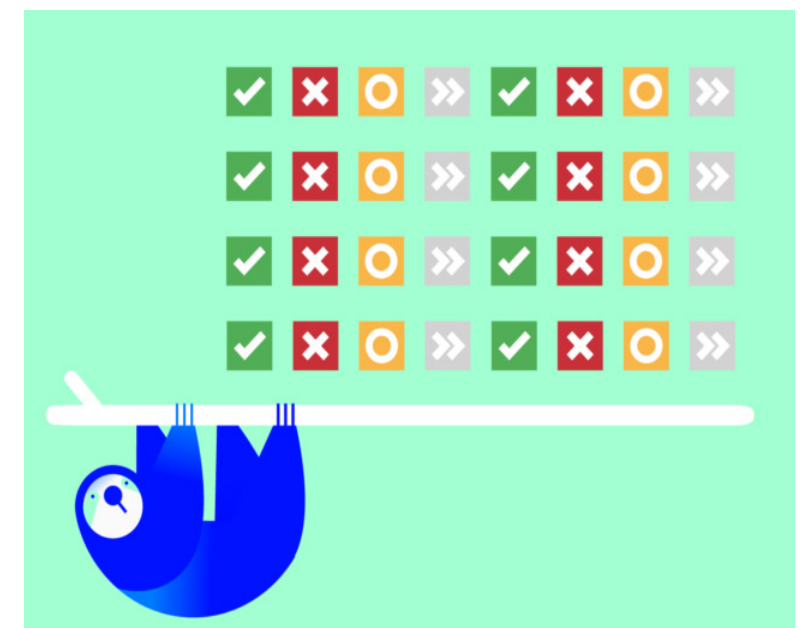


Illustration 11: Proposition Board (OK Labs Bonn n.d.)



# MAP OF TOMORROW

MANnheim, GERMANY | BY KONSTANTINOS KONTOKOSTAS

## PROJECT DESCRIPTION

„A life in resonance with man and nature.“ [I]

The „Map of tomorrow“ is a web based platform utilizing open streetmap data and user submitted data in order to allow anyone to discover initiatives, events and enterprises that focus on positive endeavours.

Beginning in the city of Mannheim, Germany and later expanding to the entire country, the project has been through various development phases over the years while trying to reintroduce and reinterpret different values that contribute to the overall development of a city, its citizens and various other actors. [II] A unique aspect of the platform is directly linked to the question of how raw data and non-quantitative data can be efficiently visualized. Through an experimental visual structure, the map developers are attempting to present aspects of everyday life and various values they deem important in a purely pictorial format, in stark contrast to various other online maps. Hard data is not the focus of the sources, rather pointers to testimonies and descriptions of emotions towards the object in question.



Illustration 1: Logo and tagline (Ideen³ e.V. 2020)

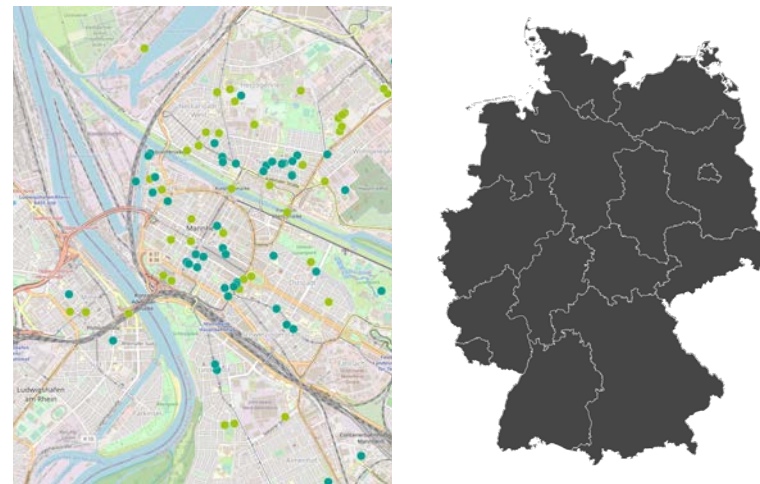
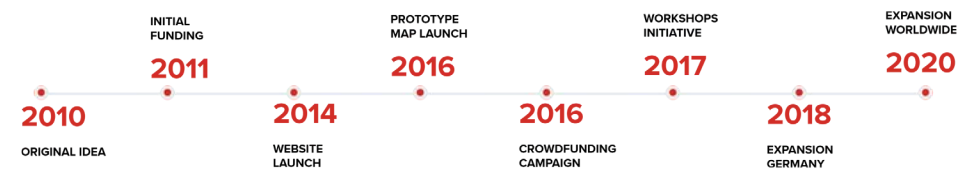


Illustration 2a: Base of operations, (Ideen³ e.V. 2020) - Illustration 2b: Scale of the project (Own Illustration 2020)

## PROCESS TIMELINE

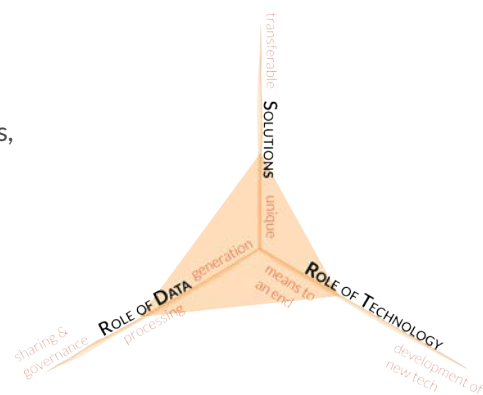


## CITYMAKER

Type of Citymaker:  
Data Activist

Technologies used:  
Website, Open Street Maps,  
user submitted data

## TECHNOLOGY



## MODE OF OPERATION

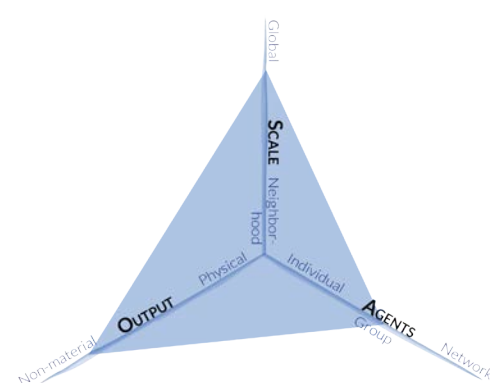


Illustration 3: Technology and Operation (Own Illustration 2020)

## KEY DIMENSIONS

Although fundamentally the map utilizes already existing platforms and publicly available data, there are two key aspects that make its development unique. Firstly is the focus on initiatives that promote positive change. Similar web based platforms are inundated with various types of data that make it hard to discover said initiatives without a clear and focused direction. Secondly is the way these initiatives are rated, categorized and promoted on the platform through a purely visual graphic that adapts to the user submitted sources, votes and commentary.

## VISUALISATIONS

In order to allow users to navigate more easily through the various pointers on the map, three main categories are chosen for this purpose (Illustration 4). The user can focus on one or allow all to be visible on the map. Initially the user is prompted to select a city of their choice to explore, discover and actively receive updates if they choose to do so.

The core team behind the project (Illustration 6) have been expanding and changing over the last decade. The pilot phase of the map (launched in 2016) started in a limited capacity in a few regions of Germany and in the next four years extended its influence countrywide with many new features added constantly. [III] Active promotion of the platform has been achieved through various social media, events, workshops and initiatives. [IV]

A complicated task for the platform is to properly present its various entries in ways that support usability. Given the size of the various departments responsible for the orderly operation of the map, good communication is of paramount importance. [V] Volunteers are a big part of the map operations as they participate in collaboration with the main team in providing the public and all interested parties with means to operate on the platform.



Illustration 4: Main mapping categories (Own Illustration 2020)

## CONTEXT AND EFFECTS

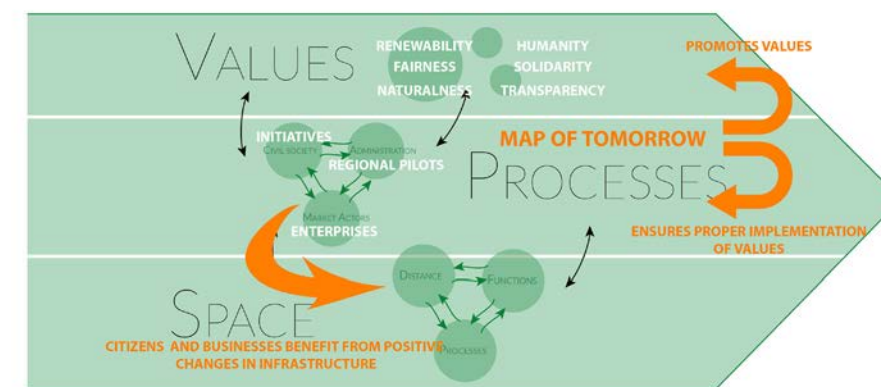


Illustration 5: Context and effects (Own Illustration 2020)

## CONCLUSION

Organizing and running a platform such as the „Map of tomorrow“ is a complicated task, especially for a team of passionate individuals, albeit limited in capacity. Positive change through certain criteria is difficult to quantify and thus describe. The approach by the developers to use mainly visual media to represent non-quantifiable data is a novel approach in regard to digital city mapping. Positive factors and values are at the core of a sustainable and welcoming city in the future. Citizens and other actors can benefit from the inclusion in the map and help in organization, activism and influencing and promoting change in the city.

## RELATION TO OTHER CITYMAKER CASES

In the scope of the „Data activist“ categorization, other maps and digital platforms that aggregate data to be used by the public or the other actors are closely related to the current case study. Projects such as „Walk your city“ and „Transition town Hannover“ are linked together as online mapping endeavours. „Shquared“ and „Hannover voids“ share a different connection as they relate to identifying and locating physical space in the city, an aspect the „Map of tomorrow“ integrates as part of the initiatives and events. Finally „Reading voluntary action“ shares the main theme of values and how they are presented, categorized and integrated in an online mapping platform.

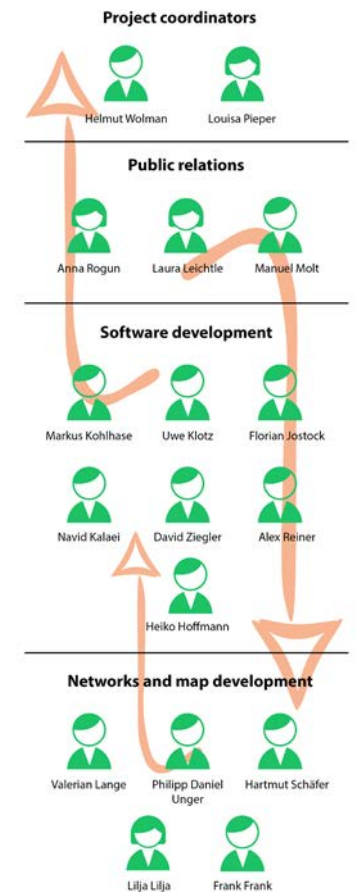


Illustration 6: Teams and department coordination (Own Illustration 2020)



ENTRIES AND THEIR EVALUATION

Users of the platform have the options to discover projects on the map that suit their interests or create new entries in order to publicize their own initiatives. Entries on the map are visually categorized based on a system of 6 positive factors , represented in the shape of a flower. For every entry sources are asked that justify the influence of each of those factors and their importance for every initiative or enterprise. A proper and full description ensures others can easily find the project and use the integrated rating system in order to increase its visibility on the map. Users can instantly identify at what scale each factor is providing guidelines for the operation of each initiative. Overall, these factors help shape an abstract judgement that allows assessment of the project’s viability in the future. [VI]



Illustration 7: Visual ratings system and variations (Ideen³ e.V. 2020)

Quantitative data is provided for every entry such as location, dates of operation, opening hours for businesses etc. The system though dominating the platform revolves around 6 positive factors. These factors are not easily quantifiable and whether their presence and influence in every project can be justified directly by sources is not instantly clear. At a certain level, a vast amount of research and raw data would be necessary in order to assign any of these factors. In the map’s current state, users can vote on the importance of every factor for each entry based on their perception, something which might not be entirely reliable. The platform creators have assigned the role of quality controllers to individuals who wish to participate as active members both over the internet as well as locally.

THE 6 POSITIVE FACTORS

Every entry on the map is assigned ratings based on how users understand them and if there are any positive contributions, currently or projected in the future. (It is asked of users to provide sources that showcase each of the criteria.) [VI]

The creators of „Map of tomorrow“ have found aspects revolving around renewa- bility, fairness, naturalness, humanity, so- lidity and transparency to be very im- portant. Users are asked based on their experience with the initiative/enterprise to decide whether any of these critieria fit the scope of the project and how they can help to predict future positive developments, locally, nationally or around the world.



Illustration 9: Factors and rating criteria (Own Illustration 2020)

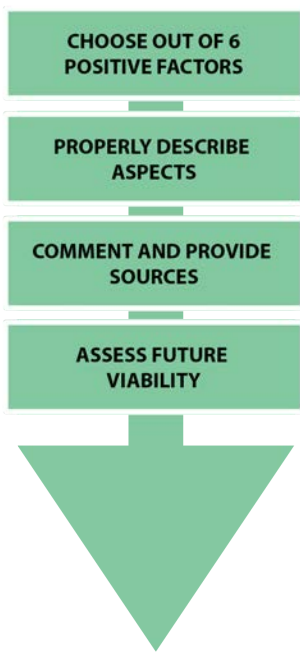


Illustration 8: Entry submission process (Own Illustration 2020)

THE DICTIONARY OF „TOMORROW“ AND DIGITAL CITYMAKERS

The developers of the map deemed important to help users better understand entries as well as structure them properly for easier categorization and clearer search results. A dedicated page of the map contains all keywords and search terms used in entries, proper suggestions that users can entail in their initiatives. On a dedicated page, clicking on a term allows the user to read a short description of the word, find a link for further information and most importantly showcase on the map all the entries in the currently visible region that contain this specific keyword. [VII]

The addition of this concept as part of the map further helps to emphasize the importance of visual, descriptive and non calculable input as a core part of the platform. Recognizing these aspects as part of an information system is vital in drawing direct comparisons to similar online maps that include a plethora of various information.

The values presented, their descriptors and their visual presentation constitute a basis of worthwhile contributions directly linked to the idea of a „Digital citymaker“ and what this means for future city development through activism.

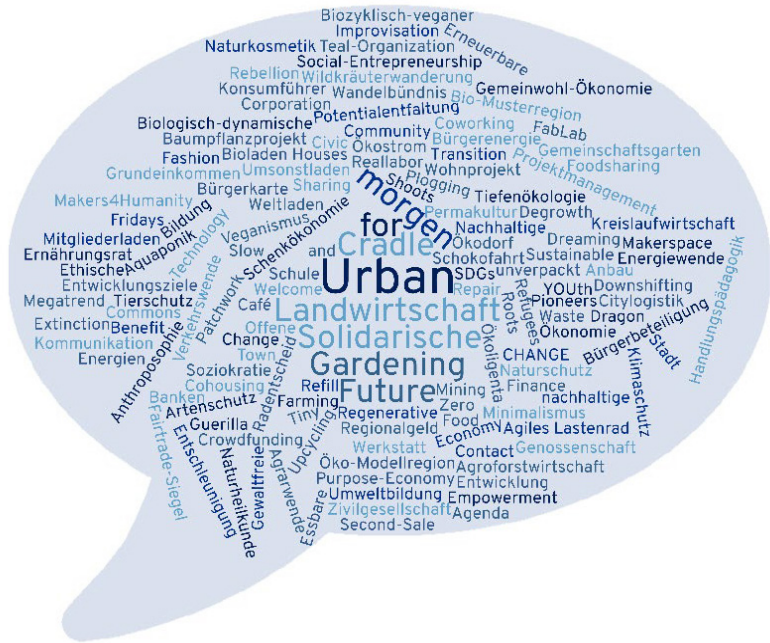


Illustration 10: Word cloud (Own Illustration 2020)

THE REGIONAL PILOT

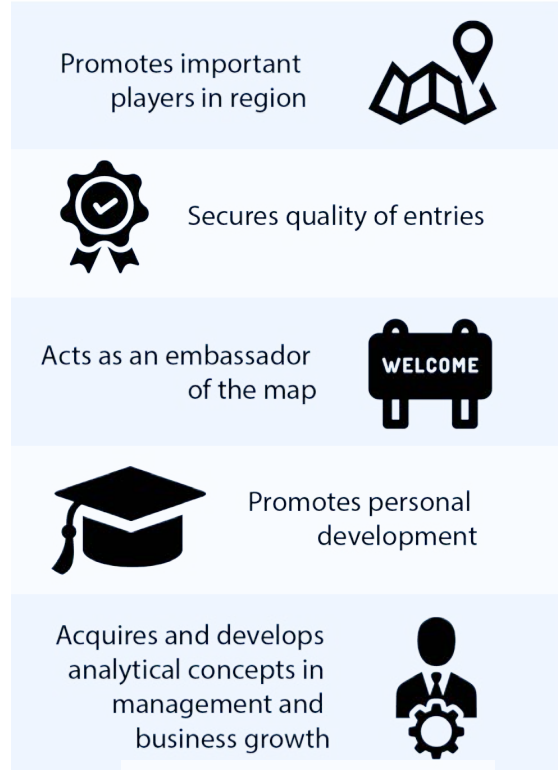


Illustration 11: The regional pilot (Own Illustration 2020)

THE REGIONAL PILOT

A key aspect of the map is the assessment of each factor and how an initiative is influenced by it. The quality of entries is one of the responsibilities of a „regional pilot“, a volunteer that has chosen to invest their time by contributing to the improvement of their local region through the „Map of tomorrow“. [VIII]

Pilots are asked to find and promote key players in their city they think to be important. They act as ambassadors of the map and also help bring important information even to those without access to the online platform through printed paper maps [IX] they can distribute. Volunteers can gain valuable skills throughout their involment which can be later applied in a work environment.

The pilots also serve as a real life counterpart of a digital cityma- ker, an extension of the map in the physical world.

CURRENT PROCESS OF UPDATES

Currently users interested in specific regions or cities of the map can subscribe by email only and receive updates whe- never an entry is added or already existing entries are modified. It is to be expected that as the map evolves and starts attracting more users, the current system of notifications will be impossible to utilize properly. Major reforms are needed in order to solve this issue, such as a dedicated mobile app. [X]



# PINGIFYOUCARE

EUROPE | BY CHEN YUE BAI

## PROJECT DESCRIPTION

The purpose of the project is to collect the problems faced by cyclists in the city and to organize them. The PING button developed by Bike Citizens and Mobiel 21 is an approximately 4 cm wide button that can be attached to the bicycle handlebar or to clothing. The button has a GPS and bluetooth connection to the phone.

The ping button can be used to mark some information on the road, including some unsafe sections or places where it is inconvenient for people to ride their bikes. During the process of cycling, people can press the button when they encounter problems.

The cyclist can comment or categorize these marked points immediately or later through the mobile app. After passing the mark, the user can get a meaningful map. People can avoid these marked places. At the same time, the government can use these signs to improve these facilities, so that people can ride more quickly and safely in the city. (PING if you care! - Brüsseler Radfahrer/innen markieren unsichere Stellen auf Knopfdruck, 2017)



Illustration 1: Collage of City (Own Illustration 2020)



Illustration 2: Map (Oxy Map, 2019)  
Award Sept. 2019

## PROCESS TIMELINE



## CITYMAKER

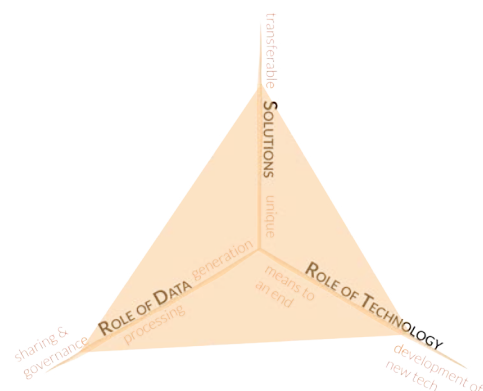
### Type of Citymaker:

Cyclist  
Data Activist  
User of Ping

### Technologies used:

sensors (Ping Button)  
app  
website  
Mapbox

## TECHNOLOGY



## MODE OF OPERATION

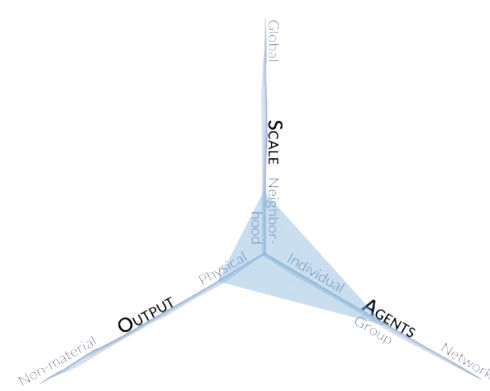


Illustration 3: Technology and Operation (Own Illustration 2020)

## KEY DIMENSIONS

People can clearly see all kinds of information on the heat map to judge which road they should choose to go to their destination. Data is a very important part of this project. The information created by people must be saved and analyzed to become useful information that can be displayed on the map. This project is very helpful for the city to develop bicycle transportation. This project encourages people to actively participate in the process of urban development. This is a way people can change the city from bottom to top.

## VISUALISATIONS

This ping button combined with bikecitizens' application can communicate directly and transparently with the city management department. Brussels has responded very positively to these issues. During the period of time when ping was used in Brussels, a total of 7000 pings and more than 5,000 related comments were collected. Everyone also interacted and left

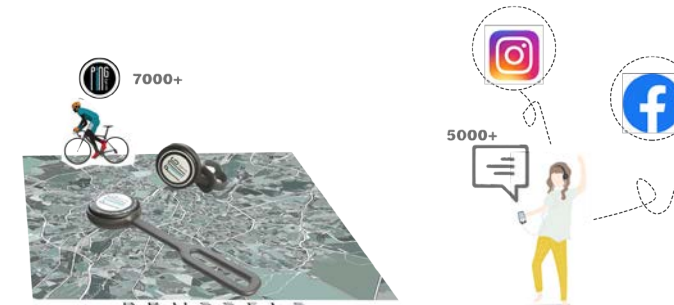


Illustration 4: Feedback and Comments (Own Illustration 2020)

## CONTEXT AND EFFECTS

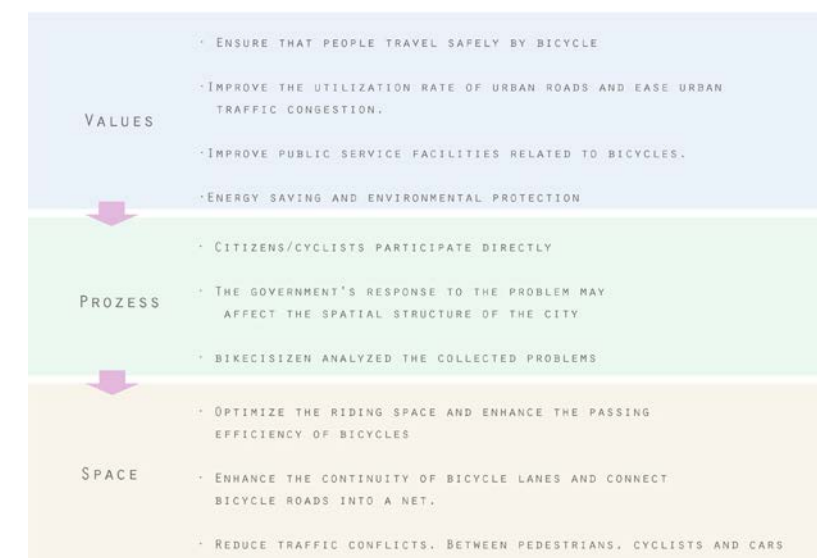


Illustration 5: Process of Work (Own Illustration 2020)

## CONCLUSION

The Pingifyoucare project is temporarily over. And the project was only carried out in three cities. But I think it can continue in the future. This project is very meaningful. As more and more people ride bicycles in the city, the urban space may undergo some changes. During the epidemic, many local governments temporarily changed bicycle lanes to bicycle lanes according to the needs of people traveling. This situation can quickly promote public projects in some cities. Not only can people get a good public space, the urban environment has also become cleaner.

## RELATION TO OTHER CITYMAKER CASES

There are many projects related to bicycles, such as urban walking systems and public transportation systems. In the process of people transferring, they can be combined in many ways. People can use this APP to find the fastest way to reach their destination. Bicycles have an advantage in short-distance travel. Multiple transportation systems are self-improving and superimposed on each other, which can increase the resilience of urban transportation. People have a wider range of options and travel is more efficient.



## INTERNAL ENVIRONMENT

The „PING if you care!“ project is based on a cooperation between Mobiel 21 and Bike Citizens, combining the companies' complementary competencies. Mobiel 21, a Belgium movement which dedicates itself to sustainable mobility, will broadly be responsible for the campaigning, project management and analysing the collected data of „PING if you care!“.

Bike Citizens will be the technology provider for this project. The company has designed and created the PING buttons. Besides that, they deliver the engagement tool, in which cyclists can track their rides and manage their marked locations. The Bike Citizens app forms the base of the data collection, which in the last step will be analysed through the Bike Citizens Analytics tool.(Elina Shaap,2017)

There is no threshold limit for participants in this project, as long as citizens who ride bicycles can participate. The mode is very simple and easy to implement. It is easy to promote in different cities. Many people will participate in a short time.

The Ping project is currently only implemented in three cities, and it has achieved very good results during the practice. So this project can be tried in other cities, and the test time is extended appropriately. You can really understand how long it takes to solve the problem in a city from the ping mark. Now the project is only at the step of collecting problems, and some problems are not really solved. And the data collected over time is more valuable. In this way, people can find the law faster from the data, so that the problem can be effectively solved.

When faced with solving practical problems, more problems may be involved, such as the conflict between cars and bicycles, the conflict between pedestrians and bicycles, and so on. How to resolve these conflicts reasonably is the ultimate problem that people face. Bicycles are a great way to explore the city, not only healthy but also cheap. But the bicycle system is not an independent system, but should be combined with other transportation systems to enrich the urban transportation network.

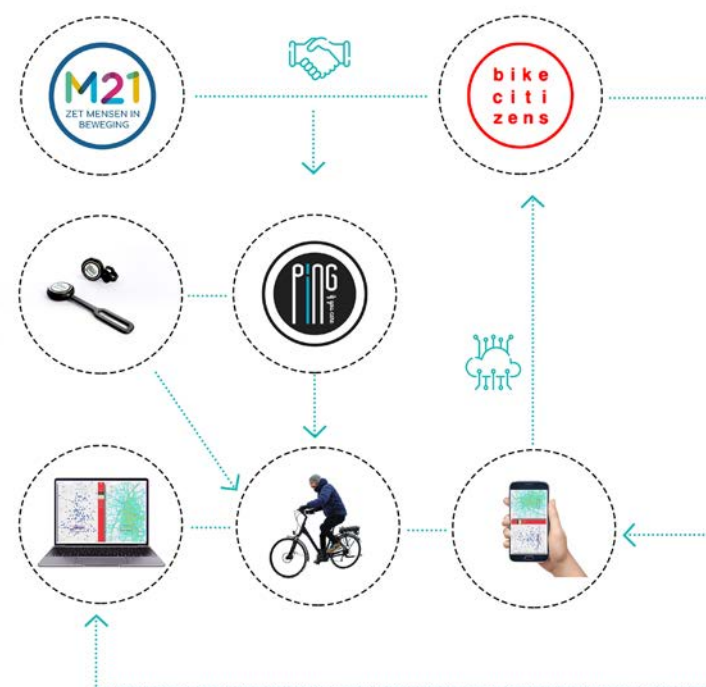


Illustration 6: Internal environment (Own Illustration 2020)

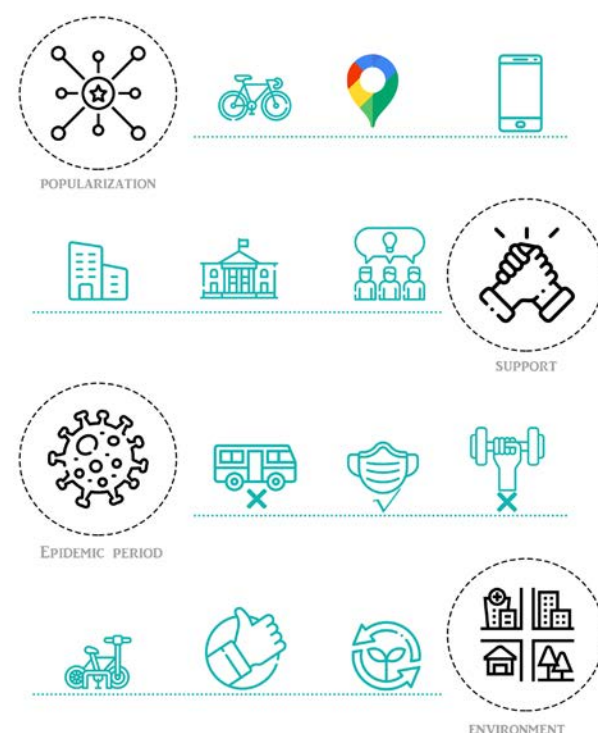


Illustration 7: External environment (Own Illustration 2020)

## EXTERNAL ENVIRONMENT

Smart phones are very popular nowadays, people will find directions on their phones when they go out. Or rent a shared car or shared bicycle through the app on your mobile phone.

During the epidemic, bicycles are very popular. Public transportation is no longer the first choice for people to go out. In this case, a complete bicycle

system is the key to urban traffic. People need cities to open up more space for cyclists. For example, there are temporary bicycle lanes in cities such as Berlin. The Italian government also gave bicycle subsidies.

More and more people have their own bicycles. Ping activities can continue in different cities. Let the citizens find the problems themselves and put forward the space they want. It is very

efficient to transform and upgrade public bicycle service facilities in a targeted manner.

Although people are keen on cycling during the epidemic, bicycle-related facilities may be idle after the epidemic passes.



Illustration 8: Perspective (Own Illustration 2020)

## IMPROVEMENT PROJECT

By promoting the Ping project, people have a good riding environment in the city. The government can also solve the problems raised by the citizens in a targeted manner. App developers have also achieved good commercial promotion effects. The volunteers of this project gained a sense of participation during the ride. In the process of discovering and asking questions by themselves, people arouse their enthusiasm to participate in urban planning.

The project can mark not only the inconvenient zones in the city, but also the good road sections in the city. For tourists who come to the area by bike, you can ride a bike to evaluate the high-priced area.

Using computer graphics and image processing technology, the data is converted into graphic images and displayed, and the data is visualized. One can achieve in-depth insight into sparse, messy, and complex data, and discover valuable information behind these data.

## PING'S IMPACT

This app should expand its scope of use. The roads of the city are the links of the city, connecting different destinations in the city. For example, when tourists come to this city, people can choose to walk and cycle to explore the city. Increase the attractiveness of the city. And ping can not only mark problematic sections in the city, but also mark POI at any time. Everyone has become a city's data collector and data maker. These poi points are fully integrated with the bicycle riding data. People can have more and richer life experiences in the process of riding.

It can also improve urban traffic congestion. Bicycle lanes can be used as a supplement to urban traffic. For example, after people take the subway, they still need 1km to reach their destination. Cycling is a good choice at this time. A good commuting environment can improve the efficiency of commuting. People are more willing to choose public transportation and cycling than driving.

Not only bicycles, but all micro-travel vehicles should be improved for this ping project. The problems found can not only arouse the attention of government departments, but also arouse everyone's attention and discussion. People can express their attitudes and opinions on this issue on the app platform.



# CITYLAB BERLIN

BERLIN, GERMANY | BY SUMIN KIM

## PROJECT DESCRIPTION

The CityLAB Berlin is an experimental laboratory for the city of the tomorrow. As a centre for Berlin's digital renewal, they shows a unique civic-public partnership that representatives from government, civil society, academia and start-ups have been coming together to collaboratively develop new ideas for how to both ensure and enhance the livability of Berlin as a city, where solutions for the challenges of the growing city are continuously demanded.

The CityLAB combines different kind of elements. They use not only digital workshops, but also physical spaces like co-working space and event space into a single location where participation and innovation are jointly pursued. They see digitalization as one of the important tools for the project and as an opportunity to rethink existing processes, dismantle social barriers and create new forms of civic participation.

Since 2015 the CityLAB Berlin has been conceptualised and developed by Technologiestiftung Berlin and with the aid of other various kind of actors. It is not a single, finalized concept. Rather, it's a dynamic experiment intended to be continuously developed and reimaged.

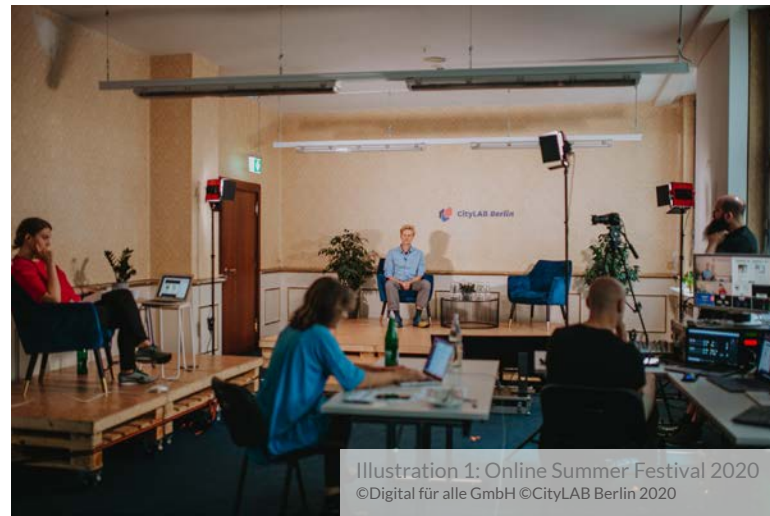
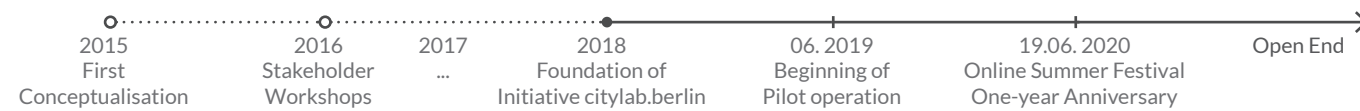


Illustration 1: Online Summer Festival 2020  
©Digital für alle GmbH ©CityLAB Berlin 2020



Illustration 2: Physical Location, Berlin, Germany (Own Illustration 2020)

## PROCESS TIMELINE



## CITYMAKER

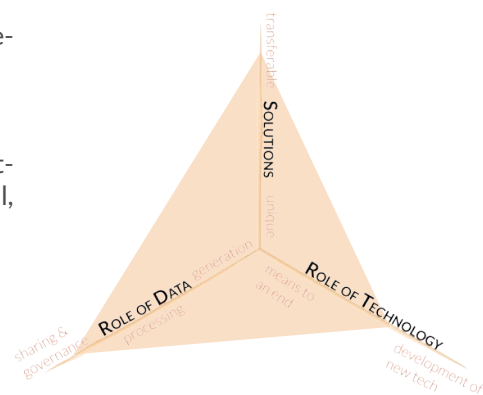
### Type of Citymaker:

Community manager, Developer

### Technologies used:

Website, Web-App, Twitter, Slack, Hoppin, Geopotal, OpenStreetMap, GitHub

## TECHNOLOGY



## MODE OF OPERATION

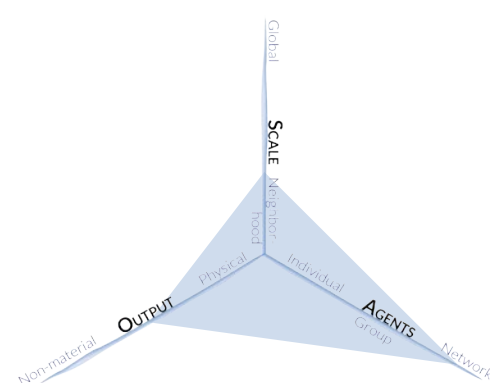


Illustration 3: Technology and Operation (Own Illustration 2020)

## KEY DIMENSIONS

Since the CityLAB Berlin has been launched by 'Technologiestiftung Berlin' as one of the important and brand new project, technology is very relevant. Especially, it's promoting open data, software and standards to support the vision of „technological sovereignty“ of cities. Sharing data with civil society, governance and developers, so that anyone can deliver their idea and suggest solutions is maybe the key point of its work flow. Yet the scale of this project is regarded as city, 'Berlin' limited and outputs may not so noticeable than other projects, because it has arisen just since a year ago. But there is much potential for it to become a global project. Under this project a lot of actors are cooperating and collaborating.

## VISUALISATIONS

Illustration 4 shows three major values of the CityLAB Berlin - „agile“, „participatory“, „open“. They are using agile methods to shorten the time from the initial idea to implementation. The idea is always exemplary, prototypical to develop so that it can be further developed then by other developers. Besides it will help to find solutions that meet users' needs. Perhaps the most

important and fundamental part is about participation. They try to design the processes where the various kind of actors are able to work and create things together, whether the scale and type of the projects. It could be small project or big project or workshop. The aim is offering a diversity of opportunities for the people in Berlin city to get involved in the digitalisation. To make the project as participatory as possible, they are promoting open data and

open source, software and standards, so that the communities or anyone who lives in Berlin can demonstrate their creative ideas. Which then also means that they are supporting the vision of „technological sovereignty“ of cities.

Illustration 6 is a brief summary of the topics of the CityLAB Berlin. Mainly their topics are about digitalisation and the participation.



Illustration 4: Major Values (Own Illustration 2020)

## CONTEXT AND EFFECTS

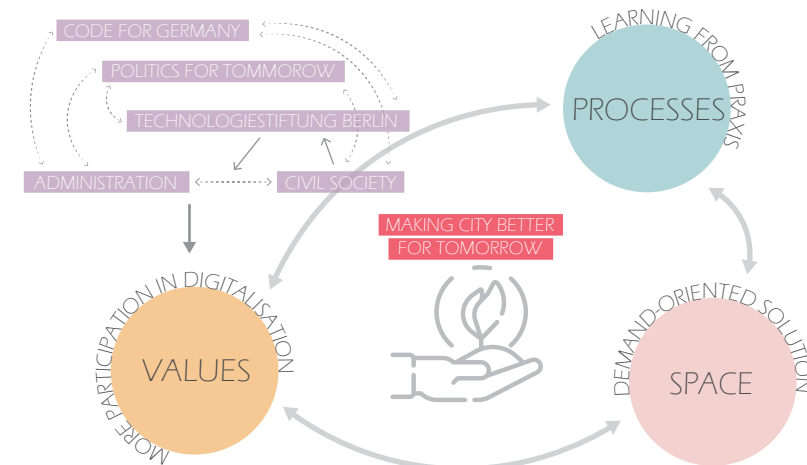


Illustration 5: Context and Effects (Own Illustration 2020)

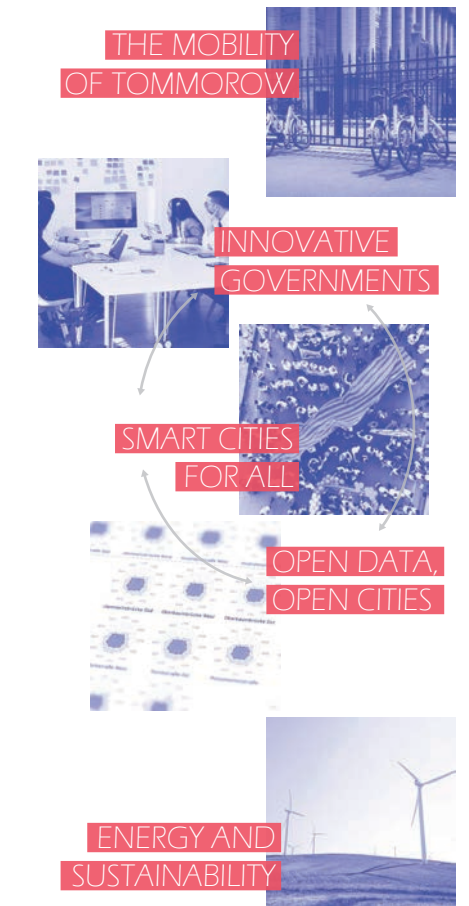


Illustration 6: Topics (Own Illustration 2020)

## CONCLUSION

Pursuit of making the city Berlin better for tomorrow is one of the important reasons why the project „CityLAB Berlin“ was created, or rather why civil society has come together for it. In 2018 the civil society has noticed that the position of civil society is missing in digitisation and that they understand ‚Smart city‘ differently from what is suggested by government and administration side. On the other side they saw much of needs from themselves and that was the moment when they became to be an activist. So they just went for this project with same goal. Various kind of players (see Illustration 5, underlined with light violet) are working on the same level in this project and following the values to find demand oriented solution for all. Additionally they are developing creative processes that they try to learn from practical experiences.

## RELATION TO OTHER CITYMAKER CASES

In comparison with other citymaker cases which can be defined by their character as the community manager - „Green-money“, „Shquared“, the CityLAB Berlin is sort of expanded project that has been emerged from civil society sharing the same or similar aim. Still the major actor is civil society, but since it is supported by 'Technologiestiftung Berlin', it is handling much more projects inside the whole project with diverse technology such as mapping, diagnosing, etc. and cooperating, collaborating with many different kind of actors in Berlin. What makes it more unique might be its experimental character. The CityLAB Berlin works as the Laboratory, like the name already implies, where the knowledge that has produced once should be able to be shared and applied by other city makers and cities.



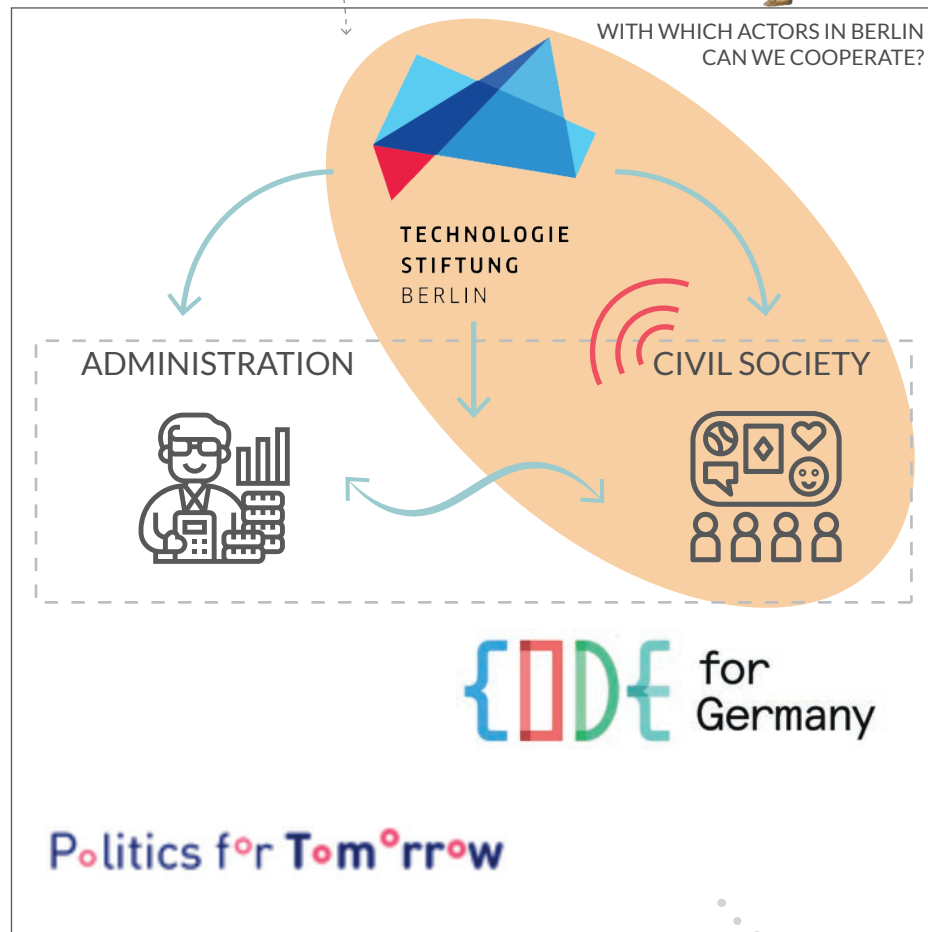


WE ARE RELATIVELY STRONG DIGITAL CIVIL SOCIETY AND ACTUALLY A GOOD ASSET FOR THE CITY. BUT PERHAPS WE NEED TECHNOLOGICAL AND FINANCIAL SUPPORT. WE SHOULD COOPERATE WITH GOVERNMENT.

BUT WHY DO BERLIN NEEDS CITYLAB?

1 PARTICIPATION OF CITIZENS IN DIGITALISATION

2 NEW PROCESS FOR DIGITAL PROJECTS



WE DONT DECIDE SEVERAL THINGS YET. BUT WE SET OUR AIM. IT'S GOOD ENOUGH FOR NOW AND SAFE ENOUGH TO TRY, SO LET US BEGIN AS PILOT OPERATION AND SEE WHAT WILL HAPPEN.

MORE PARTICIPATION

COOPERATION AT THE EYE LEVEL

LET'S MAKE OUR CITY BETTER FOR TOMORROW!

LEARNING BY DOING

DEMAND-ORIENTED SOLUTION

WITHOUT OPEN DATA WE WON'T BE ABLE TO MAKE OPEN CITY AND DIGITALISATION FOR ALL. TECHNOLOGICAL SOVEREIGNTY IS SO IMPORTANT. BESIDES WITH THE AID OF OPEN DATA WE CAN MAKE OUR CITY RESILIENT. THAT ALSO MEANS CREATING STRUCTURES, LAYING THE FOUNDATIONS WHICH WILL ENABLE US TO PREPARE FOR CRISIS IN THE LONG TERM.

WHAT ACTUALLY DISTINGUISHES OUR PROJECT CITYLAB?

CONTENT RELEVANCE

INNOVATIVE CHARACTER

USE FOR THE CITY

OPENNESS AND PARTICIPATION

REALISABILITY

Illustration 7: Whole Page (Own Illustration 2020)

## Gieß den Kiez BETA

GIEß DEN KIEZ IS A PLATFORM TO COORDINATE THE IRRIGATION OF BERLIN TREES. THE MAP SHOWS ALMOST ALL TREES IN BERLIN WITH INDIVIDUAL INFORMATION SUCH AS WATER DEMAND, AGE AND SPECIES AND INVITES ALL CITIZENS TO PARTICIPATE IN THE IRRIGATION OF OUR ENDANGERED TREE POPULATION. CITIZENS CAN INFORM THEMSELVES ABOUT THE WATER DEMAND OF TREES IN THEIR NEIGHBOURHOOD, MARK WHEN THEY HAVE WATERED AND HOW MUCH AND "SUBSCRIBE" TO TREES.

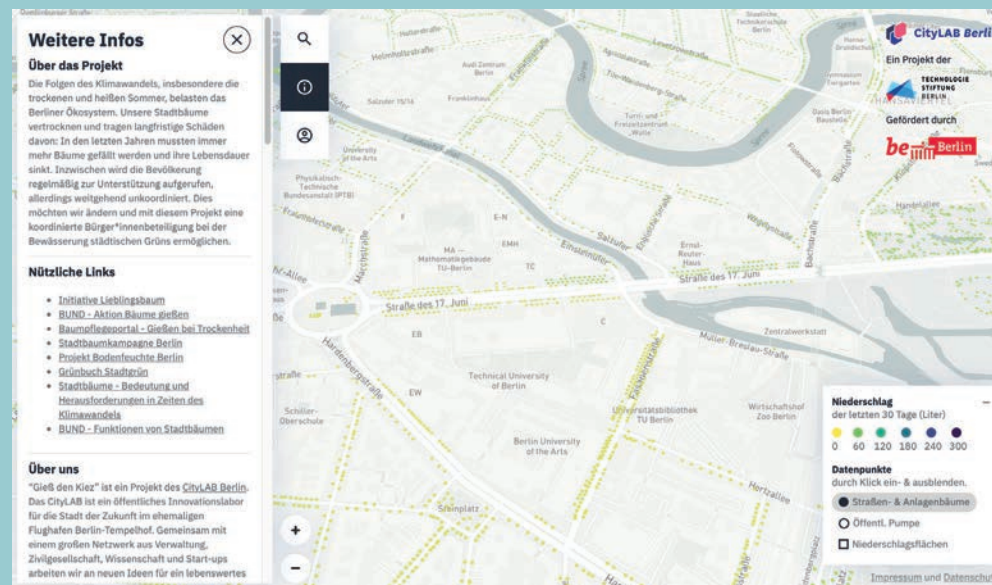
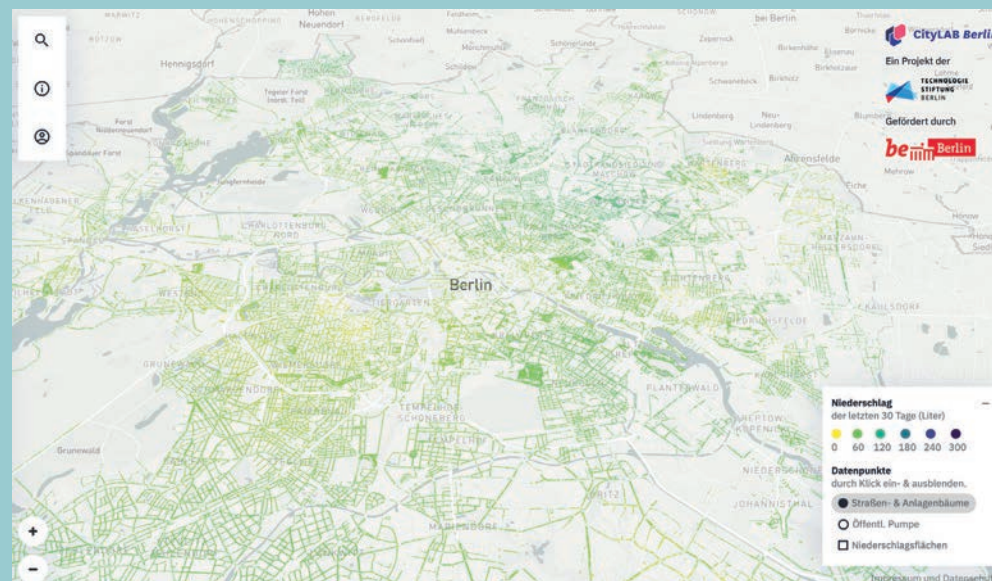


IMAGE: INTERACTIVE MAP

OVERVIEW OF THE BERLIN... TREE POPULATION ON AN... INTERACTIVE MAP

EXPLORATION OF THE TREE POPULATION

WATERING AND SUBSCRIBING TO TREES

PRECIPITATION OVERVIEW

CO-WORKING WITH OTHER CITIZENS IN SLACK

OPENSOURCE

Illustration 8: Gieß den Kiez (Own Illustration 2020)

HOW DO THE VARIOUS KIND OF ACTORS COOPERATE?

The CityLAB Berlin try to maintaining the „Bottom-Up“ structure, while they try to sensitize the administration. It can be considered that city makers should taking a role as mediator between citizens and administration. Otherwise they provides technical helps to anyone who has idea as institution and create impulses through bringing ideas from citizens' perspective, which means that they know well about public interests. Therefore it becomes possible that civil society and administration are on the same level and stimulate and supporting each other.

HOW DO THEY ACTIVATE AND SHARE OPEN DATA IN SMALL PROJECTS?

„Technologiestiftung Berlin“ supports open data, data sharing and softwares, especially in mapping. The participants, citizens of Berlin, are using the interactiv map to get or to share informations which leads to physical changes in city. I think it's important point that they share open data with citizens who has most right to the city and its changes. Technological sovereignty should be followed.





# GREENMONEY

AUSTRALIA | BY CLARA S. RENDÓN SCHATANEK  
PROJECT DESCRIPTION

“Earn rewards by living green.” GreenMoney is a recycling rewards program based in Australia which promotes its users to make positive changes in their daily life, improving the way they live as well as spreading consciousness about sustainability to their communities. As a member of GreenMoney, one can earn rewards for recycling and taking simple everyday green challenges, whether it is grabbing a coffee in a reusable cup or learning the 6 Golden Rules about recycling. When completing a challenge the user receives „points“ which can later be used on vouchers for a local business, donated to a charity, or on museum passes. (GreenBe Systems, 2016)

Regulated by the local government, it searches to transform the communication with residents through efficient technology and motivate people to live more sustainably. GreenMoney works with local and „environmentally friendly“ businesses to promote local circular economy.

Depending on the council, the challenges and rewards may vary. The program can be accessed through their website or mobile app. Currently, GreenMoney can be used in Sydney and Melbourne in Australia. Some councils have decided not to renew the partnership with this program. The map on the right visualizes the project's scale and current activity. (Green Be Website for City of Melbourne, 2020)



Illustration 1: Green Money Rewards Program (Own Illustration 2020)

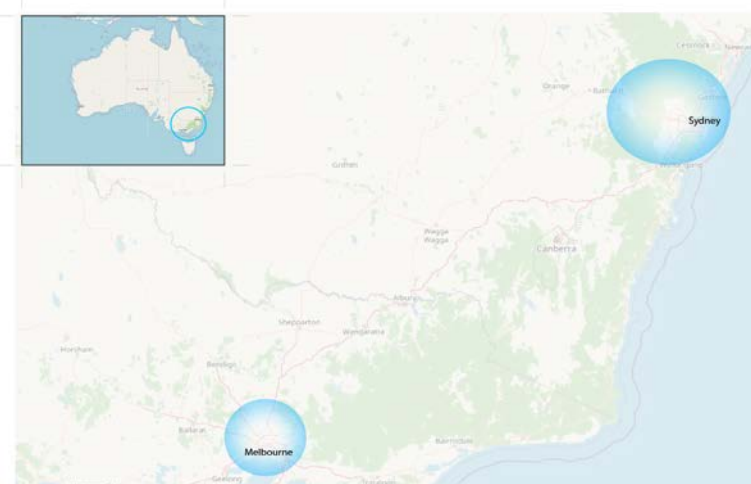
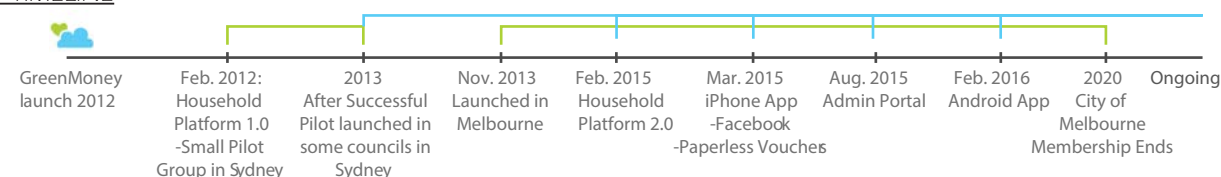


Illustration 2: Site and scale of the project (Own Illustration 2020)

## PROCESS TIMELINE



## CITYMAKER

**Type of Citymaker:**  
Community Manager

## Technologies used:

Website, App for iPhone, App for Android, App for Windows Phone, Online Rewards Program Vouchers, Software for Businesses and Users



Illustration 3: Technology and Operation (Own Illustration 2020)

## KEY DIMENSIONS

GreenMoney was created by GreenBe, a software service provider for local government. An important aspect of this project is its use of behavioral science technology to inspire and engage the sought change in the community (Illustration 3). The technology is the most essential part for the project to work since it captures a demographic database and behavioural analysis of residents, provides an advertising platform for the businesses involved, and develops an efficient way for residents to be rewarded. GreenMoney operates on direct interaction and connection between the cities, its local businesses, and its citizens through technologies.

## VISUALISATIONS

GreenMoney works by having residents sign up to the program for free. To earn points residents complete challenges that are designed to educate and engage residents, and by recycling together as a household. The administration portal records real-time actions taken and personal demographic data, this helps to tackle specific areas or produce content focused on certain problems. GreenMoney sup-

ports local community businesses also dedicated to sustainable practices.

The organization model (Illustration 4) works as a circular and local partnership between GreenMoney (powered by GreenBe), the city's council (government), its residents and its local businesses. GreenMoney acts as the digital platform which allows these actors to connect and benefit from each other with a common goal.



Illustration 4: Organization Model (Own Illustration 2020)

## CONTEXT AND EFFECTS



Illustration 6: Values, Space, and Processes (Own Illustration 2020)

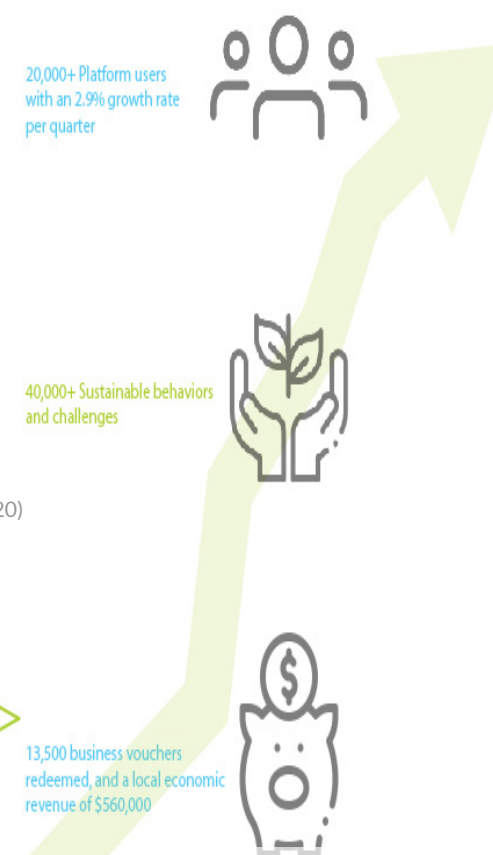


Illustration 5: Blacktown City Progress (Own Illustration 2020)

## CONCLUSION

Most of the cause and effect in our world, in terms of the environment and transportation, are based on human behavior, so for progress to happen, conducts have to advance. The GreenMoney platform generates awareness towards sustainable behaviors and actions through its gamnification concept. This project uses technology as a mean of interaction between different actors in a city, the citizens, local businesses and its government or council. GreenMoney's approach is to incentivize positive and ecological actions in the community, as well as connecting the various roles towards a common goal. This project can efficiently be implemented on many cities, and its technology can provide a solution for governments to achieve community cooperation, but it is recognized that its headway depends on the participation of the community.

## RELATION TO OTHER CITYMAKER CASES

There are rather few correlations between this project to the other citymaker cases, only some distinct parallels. Similar to the other projects, GreenMoney currently works in a „city scale“. GreenMoney and some of the citymaker cases are powered by same technologies such as platforms available as websites or mobile applications. In terms of the the project's propositions, it works to drive behavior change towards green actions, as does in some way but through a different approach the case of „Map of Tomorrow.“



MORE ABOUT ITS ORIGIN

The idea for GreenMoney came from searching for a way to get more citizens to care about the environment. The team identified that setting an interactive platform with a set of activities and a reward system could be a way to get people to engage to achieve this social and environmental impact. It was first introduced to Randwick City in Sydney, Australia, one of the most progressive councils in Australia,

where they were searching for a solution for the environment and citizens were inclined towards participating. The first system rewarded households for their recycling by weighing their recycling bins. This was achieved with the cooperation of the council and monitoring of the waste trucks. Rewards included free passes for visiting the aquarium or wildlife park, further incentivizing how important it is to care for the environment.

Further down the road, GreenMoney grew its user base and started to add individual daily challenges as well as the participation of local businesses. The system for each council is adapted towards the community's need and therefore may vary in each council. GreenBe's technology allows its users to customize and brand their solutions, depending on the community's demographics and needs.



Illustration 7: Example of Challenges (Own Illustration 2020)

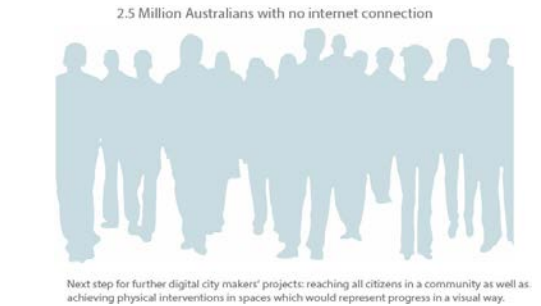
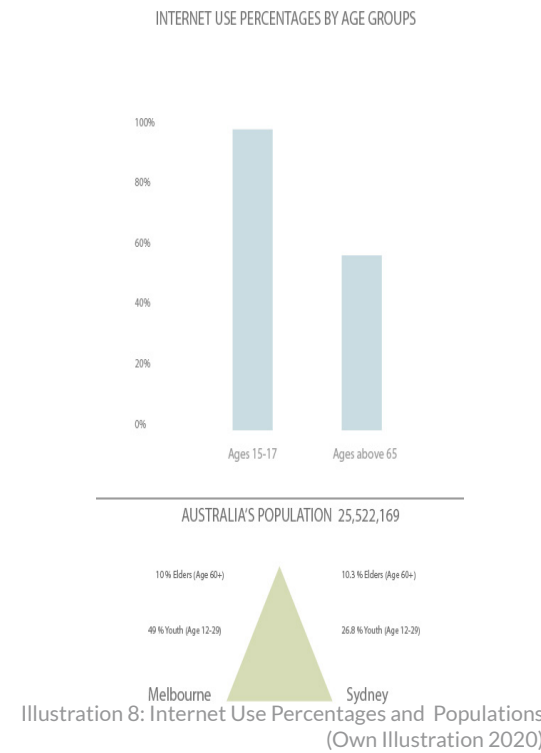


Illustration 9: Australian with no internet (Own Illustration)

IDENTIFYING DEMOGRAPHIC AND ENVIRONMENTAL CHALLENGES

A question that emerged during my research was which challenges might present themselves for such projects. As mentioned before, I found out that the GreenMoney Rewards Program wouldn't be continuing in Melbourne. Through further contact with the City of Melbourne, and the CEO of GreenBe, I was able to receive more information on these cases.

The City of Melbourne started the GreenMoney program in 2013, as an incentive program for residents to improve their recycling rates. In 2016, the recycling component was changed, since it wasn't as effective to track an individual's recycling rate improvement, and they started focusing on using the individual sustainable challenges. This allowed to incorporate city workers as well and encourage everyone living and working in the city to make small positive steps towards reducing the ecological footprint. In terms of ending the program, the City of Melbourne declared a climate and biodiversity emergency in 2019 and has decided to redirect funding and resources from a number of areas, one being GreenMoney, towards their priorities for accelerated action on climate change. Due to the positive feedback it made, they plan on returning to such programs in the future.

Other emerging challenges were mentioned in the interview, the different demographics of citizens being a big part of it (Illustration 8 and 9). Although the project targets a whole city, there are different age groups and each respectively has different interests, level of participation and even amount of internet usage. Some people really engage with the city and community, while others will not likely do the same or will have no level of engagement at all. Other factors in demographics, include the senior citizens (15% of the population), the households without internet, and homelessness (116,427 stated cases), amongst others. GreenMoney will rather focus on certain citizens that have an interest in such projects. The collected database of users has helped the city to identify some of these problems which can be solved by tackling the areas with other projects. There is always room to grow, improve and reach all the community, but sometimes there are uncontrollable factors such as the individual's interest. (Australian Bureau of Statistics 2020)

PARTICIPANTS' PERSPECTIVES

As mentioned before, GreenMoney is mainly used in Sydney and Melbourne in Australia and one of its main participants in the program is the Blacktown City Council. They have been running the program for about 6 years, through the GreenMoney App or online. They do this as they have some members of the community who don't have computers or smartphones, so they can easily access the platform in the community libraries. They use both the small challenges and the recycling of households. GreenMoney provides residents with emails regarding the promotions of the reward partners and adding 2 or 3 articles related to sustainable living. From their experience, the program is great for being able to customize the messages or challenges to suit the community needs accordingly. With the help of the platform, they have completed a household waste audit and were able to produce content focused on the noted problem areas. The illustration exemplifies the different actors in the project and how they benefit from each other.



Illustration 10: Actors' benefits (Own Illustration 2020)

EXPANDING EXPERIENCE

The GreenMoney App has achieved a monthly download growth of 197% with more than 1,700 downloads in the last month. The software technology behind the platform of GreenMoney is being used in similar sustainable and volunteering projects in other cities in Australia.

The same technological platform as GreenMoney, has recently being launched for another city in Australia. „Lean in Newy“ is an app aims to spread and guide community spirit for the City of Newcastle. This platform



FURTHER THOUGHTS

Through this research, it has come to my understanding how important awareness and support is towards emerging community-oriented projects. The COVID-19 Pandemic has influenced our world in numerous ways, and now more than ever, technology plays an essential role in our lives. The way people interact, work, and live has depended on the use of technology, it is an important not to lose sight about how its tools will continue to form our future. Though there are different categorizations for the digital city makers their main tools and goals are the same; technology to connect, spread and advance towards the goal of developing a community, a space or even a city. One must acknowledge, that no action or project is too big or too small, what is important is that these projects emerge, and these actions are taken. On the other hand, the part that seems to be missing in some projects using technology is the translation of these progress and positive changes in our surroundings, in the physical world. The technology in our lives would have even more of an impact if the sought development would also target the environment in a direct way, therefore making these improvements or changes tangible and visible.

allows the citizens to connect, offer help in the neighborhood, volunteer in charities and support local businesses.

They have started to implement the PowerSavers Programs. These energy platforms, including SolarSaver, PeakSaver and CoolSaver, are used to drive demand management programs for reducing household energy usage. Its purpose has the same base, accomplish change by getting citizens to participate in their everyday life through challenges in their household, and rewards. Users benefit from reducing their energy use by saving money on their energy bill.



Another similar system in Australia, powered by GreenBe as well, was the Jemena Power Changer. It was deployed for energy companies to reduce the peak demand on electricity, through the challenges it provided its users and points for every completed task.

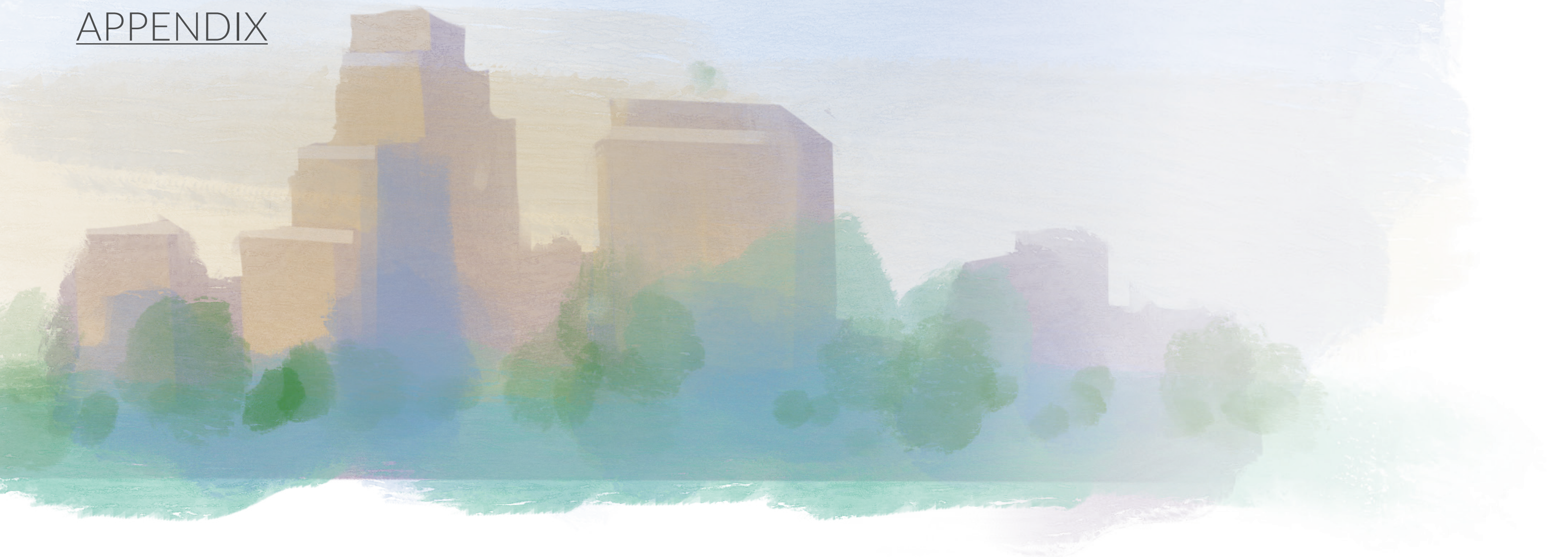
GreenBe seeks to share their knowledge and experience and expand to other cities that pursue sustainable actions in their communities. Cities can learn from the impact of such projects and study what they can do differently. (Green Be Utility Platforms, 2020)



Illustration 11: GreenBe's Projects - Logos. n.a./n.d.



## APPENDIX





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