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A KEY TO THE COMMUNITY'S KNOWLEDGE: PARTICIPATORY MAPPING METHODOLOGY IN THE EASTERN EUROPEAN CONTEXT

Abstract

During the past three decades, new forms of mapping have emerged. The cartography went beyond traditionally accepted mapping parties — institutions and academia. Maps can be created by everyone, facilitated by mass products, such as Google Earth, which Al Gore described as a "Digital Earth Initiative" (Crampton 2009: 91-92; Pickles 2004: 145–177). They are provided by technology giants, which became new, yet important players in cartography unimaginable 200 years ago. As a tool to encode and portray spatial knowledge, a map is widely used in the urban planning process. The changing economic situation and planning practices in Eastern Europe created conditions for integration of society's voice into spatial planning. New tools are being created to facilitate representation of the new stakeholder — community — in the battle for power between the state, market, and society.

This article provides theoretical investigation and practical examples (2 case studies) to explain specificities of participatory mapping in the broader cartography field, and to discover potentials and obstacles of participatory mapping applications in the Eastern European context. Both cases aimed to inspire residents by helping them understand potentials embedded in the spatial structure and architecture of a town, empower them by creating a critical mass with a commonly agreed public opinion on spatial changes.

In the context where distrust in local government is common and residents feel incapable of steering a positive change in the development of a town, the two case studies provide methods to overcome these challenges. Even though both workshops use gamification, they employ different tools: geolocation of building blocks, and "a decision tree".

Keywords: participatory mapping, participatory urban planning, Eastern Europe

Maps and Power Relations

Maps are usually understood as an objective graphical representation of morphological landscapes or physical features of a space. However, maps also encode a deeper layer of power relations (Harley 1988: 277). Throughout history, maps represented the world in favor of society's dominant group. Official maps were usually made upon a request from an individual patron, state bureaucracy or the market. A map conveyed power territories of the requesting party. During the Cold War, the map was used as international psychological warfare (Harley 1988: 287). State boundaries and spatial structures delineated the state property — its geopolitical power. In addition to this, map making is usually guided by a set of specifications from a party that requests a map. Specifications might control which spatial elements to include and what symbolic representation they communicate. For example, nowadays it is commonly agreed to exclude military installations in official state maps diminishing misuse of maps by the parties that threaten the peace. In the 1960s in Russia, maps deliberately relocated towns to deceive an enemy (Harley 1988: 289). These deliberate distortions in maps construct a biased image of a place serving the needs of the requesting party. It shapes our understanding of the environment and influences our actions related to it.

A multinational business, Google, is a powerful player that deliberately forms our understanding of the environment through images and services of Google Maps. The satellite view became a familiar view of the Earth, services, such as route planning, place finding; real-time traffic services influence decisions where we go to and how we get there. The spatial knowledge production, or, in other words, mapping, can also serve the purpose of gaining power. As Foucault says, "the quest for truth was not an objective and neutral activity but

was intimately related to the "will to power" of the truth-seeker. Knowledge was thus a form of power, a way of presenting one's own values in the guise of scientific disinterestedness." (Poster 1982). The spatial knowledge can bring superiority for one party over another in the decision-making process. Unclear motives behind socio-spatial data collection, in other words — a gain of knowledge, can be a reason for distrust by the community and can lead to the unwillingness of participation in participatory mapping practices. All in all, maps, from a first glance neutral information source, reveal the hidden layer of the power relations — the expression of power, the intent to manipulate or the seek for power.

In the 1980s the situation of power relations in mapping started to be shifted by a rise of critical cartography. Critical cartography aimed to reveal the hidden agendas and challenge formal maps of the state. Arguing that mapping is always a political process with social context, purpose, and effects (Foucault 1995), critical cartography chooses "new worlds, new societies" (Rolnik 2005). This critique made it possible for diverse forms of mapping to emerge, for example, counter-mapping, and map hackings. They started to reveal the knowledge of marginalized groups and local knowledge (Crampton and Krygier 2006). Participatory mapping as a tool revealing the socio-spatial structures of a certain group of people — a community–, can also be seen as a part of critical cartography.

Differently from usual critical cartography, participatory mapping is not only a tool to capture local knowledge but also a tool to form social relations. Through mapping practices, community members are activated to generate spatial information and at the same time inspired to take decisions about the spaces they live in (Mitlin and Thompson 1995: 235). Mapping forms a critical mass of people with a consensus of opinions on spatial changes.

A production of participatory maps benefits from an accessible and broadly understandable representation of the spatial environment used as a base map to collect spatial knowledge. The mapping world and the general cartographic sphere have been changed by the rise of private companies in mapping, led by Google with its product Google Earth. Mapping the country's territory no longer is the nation's state monopoly but has been globally privatized. Google Earth, and, in a similar way, Google Maps, serve as a platform and basis for manifold applications of mapping. Customized maps for participatory mapping can be created by "MyMaps" and even governmental partnerships with Google use it, e.g. for catastrophe mapping (Crampton

2009: 94). Google's products Earth and Maps have also been a discussion for drawing border between the national states. In a short time, a single enterprise has become a very powerful player with no transparent mechanism of control.

The Emergence of Participatory Practices in Urban Planning In Eastern Europe

The shift in planning in Eastern Europe, especially in former Soviet Union countries, was influenced by the political and social changes in the 1990s. The planning apparatus, inherited from the Soviet Union, respecting the planner's interests as well as those of the state had to change in order to integrate locally derived solutions and people's needs, represented by the rising amount of civil organizations and NGOs (Tsenkova and Nedovic-Budic 2006). However, it was not an easy and fast process. First, planning systems changed to respond to the interests of private businesses. Mostly, the process was initiated by economic circumstances. The financial power of the governments decreased and investments originated from a private sector. It created urgency for governments to shift to regulatory planning, which recognizes the rights and interests of autonomous parties and defines the rules and obligations each party has to follow.

The rise of civil society followed by independence movements challenged planning systems to respond to society (not only to government and businesses) (Lewis 1992: 169). Still today, the participation of people in the urban planning process is developing and is mostly guided by private companies undertaking the outsourced assignments from the governments. They could be urban planning companies, NGOs or urban activists. The latter play a significant role as mediators in the urban planning process where participating parties have conflicting interests or distrust. The time span of almost two decades was needed for the urban planning mechanism to change and the private planning companies to emerge, preparing a basis for participatory practices.

Participation tools are already a common practice in Western Europe countries with a long urban planning history, such as the Netherlands. However, the distinct political and social situation in Eastern Europe complicates a direct application of western participatory tools and methods in the Eastern

European context. They must be responsive to the local peculiarities. One of those is lack of trust between the government and the residents, which derives from urban developments guided by interests of a specific group, be it a private business, wealthy residents, or politicians themselves. Local governments in Eastern Europe have a weaker position towards the market forces and often are subjugated to a large company, such as a real estate developer or a retail chain. The notion of the inability to fight against hidden forces in urban planning reduces common people's engagement and intention to cooperate. And on the other side as well, the society's negative approach towards the government results in unwilling participation of the latter.

Principles of Participatory Mapping

The participatory mapping, which is also called a community-based mapping, is a general term defining approaches and techniques that combine the tools of contemporary cartography with the participatory methods to represent the spatial knowledge of local communities (Mapping for Rights 2016). It first started in the 1970s as a collection of accurate and detailed information, gathered and used by researchers and development agents for analysis of local problems and priorities. Later, the participatory mapping became a tool for direct involvement of the community into a planning and design process (Mitlin and Thompson 1995).

Participatory maps usually contain information that is not included in the official maps. The elements of official maps, such as administrative borders, landmarks, meeting places, are rephrased and renamed by the community mixing with its distinct social and cultural patterns, as well as interpretation of the environment. The distinct symbols, names, priority features, and scales emerge. It includes information that residents themselves identify as relevant and important for their needs (Mitlin and Thompson 1995). This forms the whole new layer complementing the official or mainstream maps spicing them with the culture of the place. An example of such an informal map could be the Rainforest Foundation UK's Participatory Mapping Program in Congo Basin. The local forest communities were equipped with the GPS tracking tools to mark their tenures and the resources they depend on. The collected information was added to the GIS. The produced maps were used to inform the development of national forest policies in Cameroon and resolve conflicts, such as

resource management, wood, and mineral extraction fields planned in forest community's tenures.

Participatory mapping products, as well as the mapping process, should not be confined by conventional mapping techniques. Maps can range from hand-drawn to digital ones made with GIS software, enabling various formats of the content. The emergence of recent technologies, such as satellite, drone 2D or 3D photographs of the Earth surface, GPS trackers, make new ways of participation in mapping possible. Since the launch of Google maps in 2005 (Gibbs 2015), the Earth imagery has been extensively used by everybody with a computer and smartphone access. It shapes our understanding of the Earth and becomes a canvas for mapping. Everybody can read and understand the Earth image maps, reducing the border between professionals and non-professionals. Online available maps become a base for map mashups — a combination of geographic data from one source with a map from another. Technology allows to georeference the non-spatial information, photos, stories, in other words — georeference local knowledge. For example, MyMaps enables to create your own maps by marking places and adding comments, images, and hyperlinks. The 3D view of Google maps, drone mapping expands mapping opportunities from 2D to 3D views, enabling more precise recordings of the information also from a human eye level.

Some online mapping platforms enable an unrestricted amount of users, forming global communities. One of the examples that could be mentioned is the Citizen, former Vigilante, an app that allows its users to map crime scenes. It serves as a tool of surveillance, a modern panopticon, and real-time information about unsafe environments. Such spatial crowdsourcing or geo-collaboration (Hopfer and MacEachren 2007) platforms enable collaboration between widely distributed participants working on one project, where each person's contribution is only a fraction of the total result (Crampton 2009). Map mashups and GPS trackers also bridge the gap between information formats and make it possible to georeference local knowledge in the way that it can be analyzed by professionals. The widely accessible open-source tools facilitate traditionally disempowered to produce counter-knowledge and counter-mapping (Crampton 2009). However, technology also enables unsolicited participation in spatial data collection. Google tracks the movements of its users. It is a price to pay for the "free" service without providing alternatives. It raises a bigger question of who owns the data and who has the right to use it.

Participatory Mapping in Urban Planning

Participatory mapping is the first step in participatory planning. It brings the visualized realm of the community's spatial structures onto a discussion table, which is later taken into consideration during decision making (Warner 2015). Participatory planning, as part of urban planning practices, is a process that involves multiple stakeholders, whose interests should be respected. It requires multiple sessions to define interests, formulate goals, and spatial interventions. It is yearlong process, therefore it is important to take into consideration the time. A participatory map represents a certain state of a community at the time the map is made (Kitchin and Dodge 2007, 332–343). Mutual benefits are obvious. A participatory map helps planners to understand the stake of the community, and the community understands the complexity of different interests for the same territory. This insight into the situation helps to create a valuable discussion between the parties in order to achieve the consensus. There are already successful examples of participatory practices, such as the "Play Noord" project in Amsterdam, which developed a strategy altering the existing plan (Play the City 2016).

The following chapters describe the examples of participatory mapping practices organized in the Summer School "Mapping Visaginas" in 2015. They provide practical insights into potentials and challenges of participatory mapping and its applications in planning in the Eastern European context. Both cases have similarities and differences and were chosen to show a variety of mapping methods in the field. The first example deals with what citizens desire in a city and focuses on gaining information about the space and how to change it. The second example encourages the public to reflect on a procedure by which decisions are made.

Visaginas is an interesting case for participatory mapping workshop as it represents typical top-down urbanism.

Visaginas as a case study for participatory mapping and planning, therefore, is a paradox in itself: whereas in the past the town was planned by a central power far away (the institutes of the Ministry of Medium Machine Building in Soviet Moscow and Leningrad), it was built by its current dwellers.

The city is facing spatial changes due to the decommissioning of the Ignalina Nuclear Power Plant, the main economy of the town. A number of public space projects have been recently implemented in Visaginas from the European Union funds dedicated to diminishing the socio-economic impact caused

by the decommissioning: a new beach with a playground, a new recreational waterfront, renovation of the central part of Sedulina Avenue. Even though these projects improve the quality of existing public space and create places for new activities, there are complaints from residents about their programmatic or design elements. Understanding the needs of inhabitants helps to achieve efficient use of investments. Also, the invisible layer of a place-specific identity, its meaning to inhabitants, enables designers and urban planners to create designs that are meaningful and appreciated by its inhabitants. Therefore participatory mapping was demanded as a tool to reveal the needs, stories and to collect ideas for the future developments in the main public spaces of Visaginas.

Example of "Activating Sedulina" as Participatory Mapping in Urban Design Practice

The participatory mapping project that is described in this chapter, "Activating Sedulina", aimed to collect ideas and needs of residents to potentially integrate them in the future developments of Sedulina Avenue.

Sedulina Avenue was selected as a case, because of its significance to the urban fabric of the town and the urgency of upcoming developments. It is a High Street of the town, though, unlike in the Western context, its commercial function has never been important. Sedulina Avenue was built like a Soviet pedestrian walkway with the elements representing the town's identity as a successful urban-technological unit (Wendland 2011). The architectural elements, such as heavy and ubiquitous flower beds, fountains, sculptures, murals, Geiger counters (removed in 2018), are symbols of the past. In the dawn of the decommissioning of the nuclear power plant and the search for the new direction for the city's socio-economic development, there is a need for a new representation of the town's identity. New participation methods could be helpful to achieve the agreement between those, who shape the city — inhabitants, the government and businesses.

The position of Sedulina Avenue has the potential to positively contribute to the town's development. It is a space that houses important pedestrian routes and connects places of commerce, facilities, and cultural spots. However, the space is fragmented and has never achieved its complete state during the years of the town's existence. There are still ruins of unfinished buildings and empty places which are now being occupied by large shopping centers. Despite these

processes, Sedulina Avenue has the potential to become a strategic place for regeneration projects aiming at more than just beautification of the public space. They can significantly improve the livability of Visaginas and contribute to its economy. There is a need to adjust the town to younger generations and newcomers. In this way, regeneration of the public space could be seen as a project of broader city's revitalization strategies customized according to the local knowledge of the inhabitants.

Emerging from these findings, participatory mapping was chosen as a tool to map the qualities and to collect ideas coming from the residents of Visaginas on the future development of Sedulina Avenue to integrate them in the planning visions of the municipality. The project was seen as a structured process with the following parts:

· preparation of the map
· mapping
· processing of the information
· the second workshop
· the final map

The first two steps have been fully completed. They are described in detail while the rest gives a general overview of actions that were envisioned to be made in the future.

Even though participatory mapping has no predefined shape, a large-scale physical map (1 by 2 meters) (Illustration 1) was chosen as a tool for the workshop inspired by the Dutch collective design practices "Play the City" (2016). They use a board game set-up of a table-sized map with building elements. For example, in the "Play Noord" project a map of the North Amsterdam neighborhood Overhoeks was made. During the workshop, participants could use the blocks representing different morphologies and functions to design their proposals for the site. The board game as a physical object marks the place for people to gather and structures the workshop.

Preparation of the map started with an analysis of the spatial and programmatic structure of the avenue to identify the contents of the base map. The composition, landmarks, characteristic elements, and architectural typologies were analyzed. It appears that the street connects the urban core with the greenery surrounding the city, the avenue has a range of building typologies already suitable or easy to transform to small business spaces; the street proportions vary, creating a range of places with different characters; main landmarks are at intersections of the pedestrian avenue with traffic streets.

Illustration 1: A base map

To define the programmatic character of the street, the functions were mapped with focus on vacant places. The analysis results were surprising. There had been a hypothesis that a lot of vacant places would be found, however, out of eighty-four only six were counted. The feeling of emptiness in the avenue was caused by spatial factors. A huge amount of buildings had inactive edges or blank walls facing the avenue, there were dysfunctional elements or ruins of unfinished buildings; the enclosed typology of buildings did not reveal the enterprises inside.

The second step of the preparation for the participatory mapping included identification of potential actors of the participatory mapping. The venue plays a significant role in the town, therefore the residents of Visaginas and the businesses located in Sedulina Avenue were supposed to be involved. The former was addressed during the participatory mapping process, while the latter were interviewed beforehand to collect their ideas and needs related to the renovation of Sedulina Avenue. Additional interest groups, such as the municipality, business incubators, and entrepreneurs looking for a place to set up their businesses were addressed as well. There were ten interviews made in total in the form of a questionnaire prepared in advance. The interviews were recorded in a written form. Having the consent of some of the interviewees, some thoughts were used as inspiration and as a starting point for the discussion in the participatory mapping workshop later.

Usually, community meetings are planned in the municipality or the community center after working hours, choosing the time which would suit the
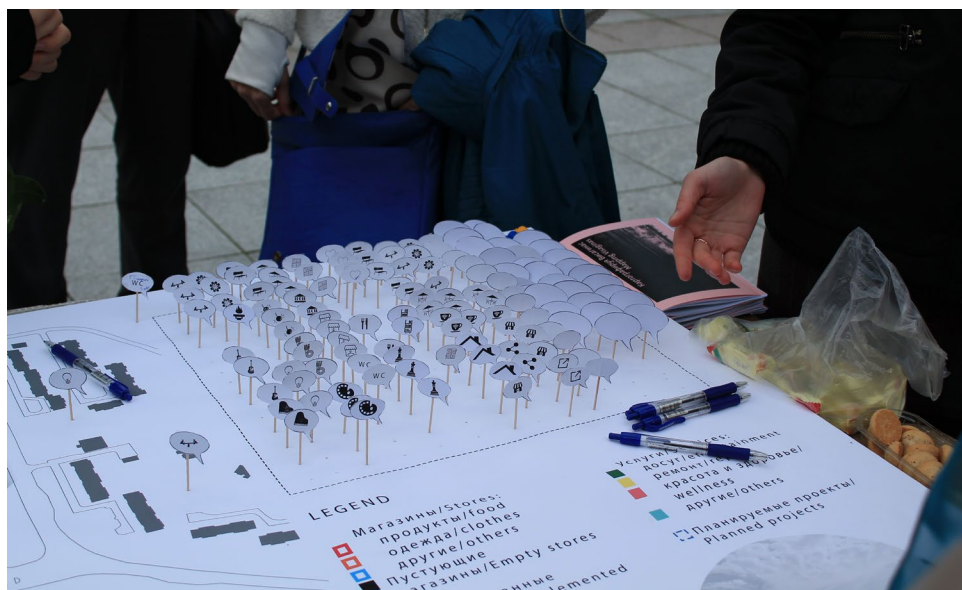
Illustration 2: Mapping elements: pins with speech clouds

majority. However, this formal setting excludes people who are not able to be present during the whole time of a meeting or find the topic partially relevant. Instead of following this scenario, we chose to arrange a participatory mapping session on the avenue itself at the peak time, at 4 pm, on Friday evening, when residents of Visaginas are commuting home. This helped us naturally meet the users of the space and allowed them to spontaneously engage in the mapping without any obligation. They were free to choose how much time they could dedicate to the discussion and how much involved they wanted to be.

The mapping is as valuable as the process itself. By analyzing the people who participated in the mapping process, we identified such social groups as power plant workers, artists, sportsmen, entrepreneurs and people working in the municipality. The discussion during the mapping process helped participants to find like-minded people and to understand that they are the ones who own the space. Participants also shared their visions for Sedulina Avenue which constructed an image of it as a cultural spine of Visaginas having diverse and vast connections with the town's cultural institutions and a place to house events of Visaginas residents. The discussions were recorded in a written form; however, audio recordings would have been helpful to better capture the multilingual discussions. The base map helped participants to have a deeper look into

Illustration 3: The participatory mapping process

functions located in the avenue. Participants were surprised that they did not know some of the enterprises, even though they were crossing this space quite often. This just proved our findings of the closed-in architectural typologies.

During the mapping process, some challenges emerged. The workshop set-up changed during the process of mapping. It was supposed to have a game setup — sessions where inhabitants would participate in designing the scenarios of how the street functioned in the day and night times. However, this set-up appeared to be excluding due to the huge amount of people (around 15 at a time) willing to participate and joining the mapping at different times. Flexibility was needed to overcome the challenge, therefore the session rules were eliminated, leaving people an opportunity to express their ideas and intentions in words or drawings by pinning them to specific locations on the avenue. To enable this process, building blocks — sets of pins with speech bubbles containing a symbol or a blank space — were prepared in advance (Illustration 2). The symbols were abstract enough to initiate interpretation or assign a more specific meaning. After a longer discussion, out-of-box ideas started to emerge.

For such a setup, the moderators needed to explain the new rules, encourage communication and moderate discussion (Illustration 3). Due to the multi-ethnic population in Visaginas, moderators with Russian, Lithuanian or

Illustration 4: Drawings of children

English language skills were selected. By helping with the mapping process, they participated in the discussions which provided the context for the information written on pins. That way, the moderators became collectors of the information in the mapping process. Due to the participation of a lot of people, engaged participants became moderators themselves, encouraging and helping less active people to pin their ideas on the table. Strangers who had never met before were discussing and sharing their ideas openly.

Another challenge was caused by the informal setup of the mapping workshop. Some people came with their children; therefore tools such as markers, drawing boards, balloons were provided creating a pop-up playground (Illustration 4). When the children were busy playing, parents spent more time engaging in the mapping process.

People's suggestions were listed on the pins on the map. More than ninety pins were collected. Five discussions were described. The most common needs were internet cafés, public toilets, and new urban furniture, better quality pavements for skaters and cyclists, and Wi-Fi in public spaces. Even more specific, space-related proposals were made, such as a multilingual library and a culture center representing the multi-ethnic character of the city; or a stage for performances of the House of Culture.

In addition to this, the mapping process provided a good overview of the stakeholders of the future projects in Sedulina Avenue, such as representatives of cultural institutions located near the avenue (a public library, the House of Culture), small entrepreneurs (e.g. children's daycare center "Vaivorykste") and residents of Sedulina Avenue. Stakeholders together with municipality

members and developers could be invited to the second workshop to verify the information gathered.

Thus second workshop is needed to discuss the vision of Sedulina Avenue. In preparation for the workshop, ideas collected during the first workshop would be visualized making it more readable and understandable. Furthermore, the existing plans for projects in Sedulina Avenue should be included as well. They can be translated into a plan drawing and several collages of the avenue.

Already during the first workshop participants should be identified and contacts collected. They can be community representatives, NGOs, developers, entrepreneurs, and local governments. Participants should be informed in advance about the follow-up of the first workshop to raise interest in the continuation of the project. The workshop should have a manageable group of people. Five to six people is a good size for a round table discussion moderated by a professional who sketches ideas on a map. If the group of attendants is larger, proportionally more moderators are needed.

To ensure that the outcome of the workshop is valuable, participants should be well informed. The material of the workshop, e.g. maps and collages, should be sent to the participants several days in advance to give them time to get familiar with them. Moderators should prepare a set of questions to be discussed within groups of participants. The second workshop is only needed if there is an interest from the public or private sector to make changes in a public space.

The discussion outcome of the second workshop should be documented in an action map listing the projects. This can be done in the form of an online map, freely available to everyone. People would have a chance to track the changing status of the projects and comment on them enabling a fast and easy to use participatory platform. The report would also follow and contain all the results of the participatory mapping in depth. It should provide solid material with qualities, visions, and intentions of the inhabitants for further use by designers and city planners.

Participatory Mapping Project
"Knit the Street"

"Knit the Street" is a game that was developed by the project group that aimed to investigate the future of the abandoned buildings in Visaginas. The main

purpose of this group was to encourage inhabitants of Visaginas to show interest, communicate about and participate in making plans for the buildings without current use in the city. Visaginas is a shrinking town. Whereas it still had about 35,000 inhabitants in 1990, in 2016 less than 20,000 people were living in Visaginas (Baločkaitė 2010). This loss in population has caused an imbalance of the existing infrastructure and possible dwellers. Many buildings have been abandoned but are still present in the daily life of the inhabitants. Often, it can be seen that the established infrastructure, although abandoned, was maintained properly to conserve it for reuse in the future. The buildings, mainly multi-storey apartment houses, are in different stages of decay. As it came out during the stay in Visaginas, many inhabitants have a special relationship to the existing infrastructure. This can be explained by the specific history of the city, as it was not only planned top down but also built by those who still live in Visaginas. By interviews in the early stage of research and development of the "Knit the Street", a strong emotional attachment of dwellers to "their" (built) infrastructure could be identified.
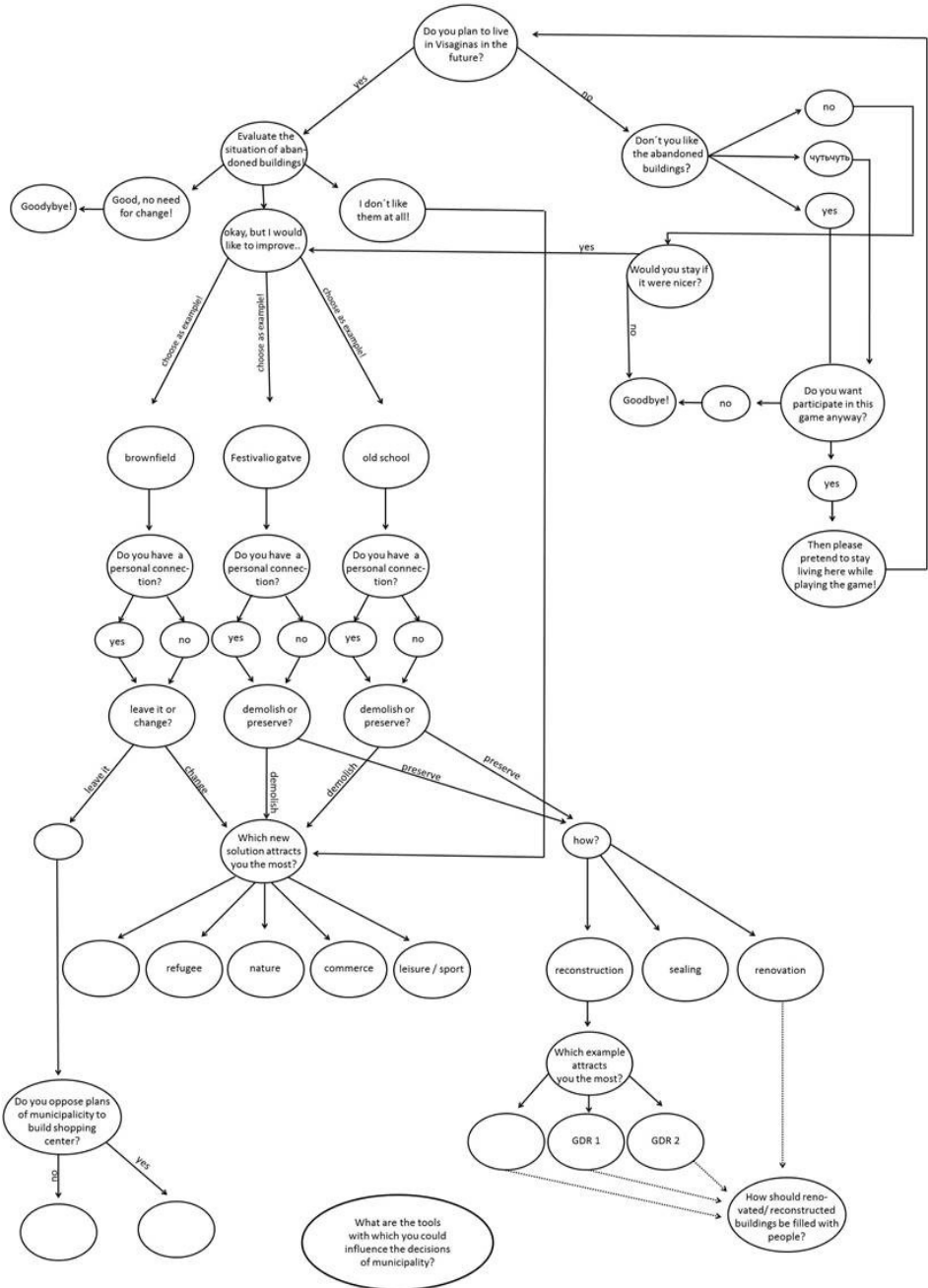
Some of the buildings are well-kept, whereas others can be described as ruins attracting vandalism and drug users. During the first survey in Visaginas, while speaking to locals, we were told that these places were perceived as dangerous and unwanted. At the same time, we could identify a strong interest of the local population in talking about the present and future of the abandoned buildings. This motivated us to develop a tool: we saw a lack of canalizing this valuable insider information to participatory approaches. Doing so, the inhabitants of Visaginas could get empowered to cope with their heritage and to find ideas to transform it.

The tool should be an interactive game that can be played in a public space with randomly selected people. Though, it was aimed to be designed as "gamification of planning processes" by encouraging people to talk frankly while playing. As it can be seen from other examples, gaming and gamification of planning is a new approach to involve urban dwellers better in planning decisions (Stauskis 2014). A „game" can be defined "as a system in which players engage in an artificial conflict, defined by rules, which results in a quantifiable outcome" (Salen and Zimmerman 2004). The mentioned artificial conflict was the confrontation with assumingly problematic structures in the everyday life of the inhabitants.

Apart from this, the tool also has the function of an interview for the participatory planning. People who have not thought about the abandoned buildings

Illustration 5: Sketch of the more mechanical decision tree

Планируете ли вы жить в Висагинасе?

Что вы думаете о заброшенных зданиях?

Да

Нет

Вам нравятся заброшенные здания?

Нет

Да

Все плохо!

Так себе, можно улучшить

Вы бы остались, если бы здания были лучше?

Все хорошо, ничего не хочу менять

Да

Нет

Выберите пример

Старая школа

пустырь

Festivalio g.

Есть ли у вас личная связь?

Есть ли у вас личная связь?

Есть ли у вас личная связь?

Нет

Да

Нет

Да

Нет

Да

Оставить как есть или изменить?

Разрушить или сохранить,

оставить

изменить

Какое новое решение вам нравится больше?

сохранить

Что вы думаете о строительстве торгового центра?

Нет

разрушить

Как?

заколотить

Да

Какой из вариантов вам нравится больше?

реновация

реконструкция

Каким образом следует заселять реновированные/ реконструированные дома?

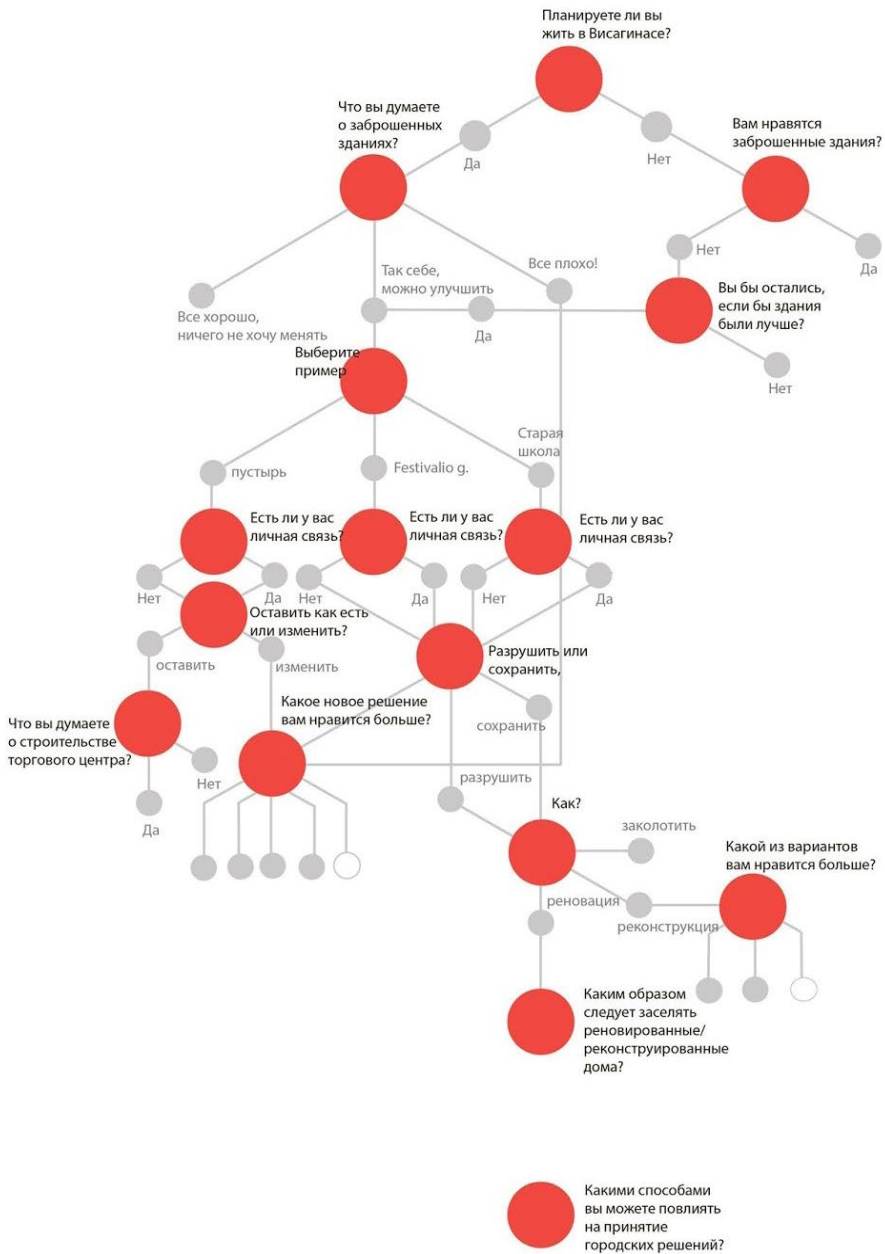Какими способами вы можете повлиять на принятие городских решений?

Illustration 6: The simplified, more appealing sketch

actively before or those who have raised their voice to the official planning authority should be encouraged to share their ideas.

After getting an idea about the potential of communicating about the abandoned buildings, we thought that by embracing the people playfully, we could best identify their thinking and needs. The idea was to develop a game that was familiar to them from the beginning. Inspired by psychological tests from popular magazines, where the reader has to decide to choose a certain path to reach a result, we developed a "decision tree" with questions about the abandoned buildings (Illustration 5). This decision tree was the guideline of the interview for us/ other researchers and the game for the interviewed person.

A technical sketch was developed and pretested successfully. We went through the streets of Visaginas with a print-out of the "decision tree test" asking a random sample consisting of different gender and age groups in different locations. The first methodological problems could be solved, diminishing stopping hooks in the conversation flow. Then, the first decision tree test was simplified and designed more appealingly (Illustration 6). People were first asked whether they live in Visaginas or not. This aimed to distinguish between residents with and visitors without assumed everyday contact to the abandoned buildings. The next question was the perception of the abandoned buildings. Not every answer had a continuation.

The transfer process from the technical and logical sketch (Illustration 5) to the designed, simplified and more appealing sketch (Illustration 6) was difficult. The technical, electrical circuit-like appearance of the decision tree with multiple decisions did not appear intuitive and unscrambled enough. Our doubts were that it could demotivate people to participate in the game and to continue playing. Therefore, it was simplified to a less complicated sketch that followed more tightly the rules of design. At that point, it is important to note that simplification may not lead to breaking up the logical structure. This process can produce hooks and logical incoherency. An example to demonstrate the complexity of this transformation is the "yes/no" bubbles in Illustrations 5 and 6. Initially, to simplify the designed game, first, lines were used instead of bubbles. For better understanding of the interview process, it was then decided to keep them in the form of bubbles. Briefly anticipated to the net section that explains the transformation of the test to the game, it can be useful to define them as bubbles to better comprehend the flow of the game and create an artificial lag. Furthermore, without these "yes/no" bubbles, later the decision of the player could not be seen anymore. A further pre-testing was carried out,

which is highly recommendable. Moreover, apart from the questions, the test incorporated images that were part of the questions. For example, pictures of successful conversion projects of the built infrastructure were shown to the interviewee. People were asked what kind of renovation they preferred. Incorporating interactive elements like pictures, videos, designed models or quotes encourage the interviewees to continue the test and prevent them from becoming bored by just answering questions.

After having tested the sketch of a decision tree with several incorporated images and improving transfer-caused hooks, we transformed the structure of the test to a real game. The pretests played a crucial role in diminishing the mentioned challenges. The sketch was drawn to a wooden board of the dimension of approximately 1 by 2 meters. Questions were marked with colored dots, whereas the paths of the decision were drawn lines. Iron nails in the center of each dot formed the basis for a flag on which the questions were written. Designing the game, we followed a low-cost approach to material that is available in every do-it-yourself store.

In the pedestrian zone of Sedulina Avenue in Visaginas, the game was installed on a platform to make it possible for the player to reach the nails. People invited to play "Knit the Street" were given a ball of wool they had to knot at the nail of the starting point. Then they were asked the questions of the decision tree and had to decide which path to take. At the dot that they had chosen depending on their answer, they were asked another question. From dot to dot, and thereby from nail to nail, they had to tie the wool around the nails, "knitting" their answer scheme (Illustration 7). This is what makes "Knit the Street" more than just an interview tool. After several interviews, one could see, depending on the thickness of the woolen path, the popularity of decision paths. This pattern can document public opinion in a playful way. At the same time, the interviewer can better focus on the details of the conversation. These can be used to improve the game by implementing answer possibilities that were taken into consideration before. People were gathering around the game when they saw a person playing. Neighbors and strangers, who had never talked about the abandoned buildings before, were sharing their opinions and people waiting to play the game were exchanging ideas. Regarding the process of playing, a certain challenge of "Knit the Street" is its structure developed during the test. Once it is set and built into the game board, the flexibility of the interviewing process is tackled. In the case of playing "Knit the Street" in Visaginas, it was very helpful that native Russian speakers were present. With

Illustration 7: The process of playing "Knit the Street" in action

their help, it was easier to approach people and to include wider groups of inhabitants.

The target group of people involved in "Knit the Street" was all inhabitants of Visaginas. As it was stated before, these people did not just move to Visaginas but some had participated in the construction of the city themselves. Their knowledge and especially their attitudes towards the abandoned buildings are a valuable source of information, giving an insider perspective. This is why the game can be seen as a valuable tool not just for gathering information and raising awareness but also allowing people to participate in the process of finding a future perspective in Visaginas urban planning.

It depends on the participant and interviewer if a game remains a game for a player or becomes a catalyst for exchange and discussion. It can be complicated to motivate a person playing not to be influenced by the crowd around them. Furthermore, the player can be influenced by the existing woolen path,

especially when playing after many other players, but these risks can be neglected compared to the positive output this method offers. "Knit the Street" is a tool that can empower people to share their opinions and ideas in a playful way. Boring collection of information is turned into gamification. Especially in urban planning, there is a visible tendency to gamification as an approach to participation (also with web-based services as for example "Community PlanIt"). Through it, people are empowered and their potential as experts in their everyday environment is activated. To the outside, it looks like a game that follows a structure people are familiar with. To the inside and to the researcher, it offers a means to document collected public opinion and detailed information. An advantage of "Knit the Street" is that through its structure that first must be developed precisely, the outcome is more standardized and therefore comparable. It is possible to produce manifold "data sets" playing "Knit the Street" in different locations and time periods. Its standardized interview guideline allows of high comparability.

"Knit the Street" can be used as a complement to the first example of participatory mapping of "Activating Sedulina". While the latter identifies lacks and desires of the community in regard to a certain space, "Knit the Street" helps to map opinions and emotions. It also helps the interviewers and researchers to better approach the people and their attitudes and emotions. While playing the game, secondary information, e.g. language use and ways of community interacting can be gathered. By applying "Knit the Street" as a tool for participatory mapping as an early stage element of participatory planning, people can be involved in those processes in a ludic way.

Conclusion

Participatory mapping is part of a broader movement of critical cartography; it not only shows the spatial realm of the community but also forms social relations. The mapping process encourages people to contribute with the information related to spaces relevant to them, and at the same time inspires them to be part of the decision making. In this way, both the content is generated and representatives are elected leading to the first step of participatory planning.

The usefulness of participatory mapping is evident. By mapping the city collectively, residents reveal the hidden layer of their spatial realm which is unknown for planners, however, very useful in order to make successful and

appreciated projects. Mapping as a process is a valuable part, as it can help to identify actors, help a community to understand their values and mobilize people for action. Furthermore, it can serve as a key for researchers and planners to identify the character of a place.

The discussed cases of participatory mapping projects have revealed additional features which should be considered. The framework of the mapping process should be able to adapt to the changing situation, as it happened with the first mapping example of "Activating Sedulina" when an increasing number of participants resulted in the change of rules and the call for moderators. Internal complications, for instance, issues in the graphical translation of technical to more user-friendly schemes which appeared in the "Knit the Street" project, need to be resolved before the participatory mapping starts. Anticipating problems or limitations of the developed techniques are, therefore, major keys to successful mapping.

Even though participatory mapping is a valuable tool, the drawbacks of such techniques should be considered. Preparation for the mapping requires a lot of work and understanding of the local conditions. Furthermore, it can be difficult to translate the outcome of mapping to a more conventional cartographic representation, which is currently made easier due to the new technologies. In addition, both cases sparked interest in participatory planning; however, it is still a question how it can be adapted by a local government as a longer-term planning initiative.

The applications of participatory mapping are diverse and expanding. Participatory mapping can be used in planning, resource management, policy-making or simply defining design briefs. Due to the technologization of everyday life, new techniques are welcome in the process. Participatory GIS implemented into webGIS applications is on the march of progress to include more and more citizens, which allows to mobilize larger groups of people. In this context, it has to be considered that often free-to-use sources for mapping are supplied by international firms that possess influence and are mappers themselves.

The range of applications of participatory mapping expands in relation to the variety of tools and techniques used in the participatory mapping process. Therefore, it can become a method to solve problems with high complexity, even linking local issues to global processes. The potential is there and it leaves a wide field of exploration for the researcher.

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