Elocal: An exploratory approach to designing for civic participation.

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Abstract. This paper investigates how active citizen participation in local municipal processes can be facilitated through collaborative elicitation and visualization of citizen needs. A Web2.0 platform was developed to realize boundary objects supporting the online dialogue between citizens, local actors and municipal administrators. Results of a closed pilot study display that the stakeholders’ general attitude towards such new participatory means is positive, but that the process of engaging them in using the new technology proves difficult. Different approaches to overcome this issue were explored, resulting in a strategy to combine the current platform with user-generated activity mined from existing social media channels to trigger further contributions, and to connect the many existing social conversations.

Introduction

In recent years, many technology-supported approaches aiming at facilitating citizen participation in local communities have emerged. Exploring different types of collective action (Marwell & Oliver, 1993), they range from citizen complaint services to online think tanks¹, citizens' service centers, open government data portals, as well as systems supporting online decision and policy making processes². The challenges they face are often similar, e.g. cold start problems, lack of user activity, differing goals and interests of heterogeneous stakeholders (e.g. citizens, local bodies and actors). This paper discusses some of these issues in light of our experiences exploring possible solution approaches.

Supporting collaborative processes and cooperation between heterogeneous stakeholders requires considering their individual points of view towards a specific task, topic or problem. This can be achieved through boundary objects (Star, 1989), i.e. artifacts shared by all stakeholders, enabling them to understand each other while relying on their own terminology and perspectives. Therefore, designing boundary objects that could be used to support the interests of both citizens and municipalities are considered, as well as how technology can contribute to this challenge (Novak & Preuße, 2011).

¹ www.fixmystreet.com/, maerker.brandenburg.de/brandenburg/, www.nexthamburg.de/
² www.govdata.de/, sitegeist.sunlightfoundation.com/, adhocracy.de/, liquidfeedback.org/
Further approaches explored in this context involve collaborative sensemaking and multi-perspective information visualization for facilitating the discovery of insights in large or complex data collections (Novak, 2007). In the social process of collaborative sensemaking, the meaning of data and information is negotiated against specific social contexts involving shared backgrounds, frames of reference, goals and perspectives (Boland & Tenkasi, 1995). Recent approaches to information visualization focus on interpreting large or complex information sets through collaborative use, by using shared visualizations in asynchronous distributed scenarios (Willet et al., 2011).

This raises the issue of selecting appropriate data for visualization, e.g. data regarding government expenses, or existing online activity and conversations of citizens. For the latter, the use of location-based social data mining techniques (Unankard et al., 2013) can prove useful to identify citizens’ opinions and common topics in online conversations.

Elocal Web2.0 Platform for participatory city management

Exploring the application of these principles, the Elocal platform for participatory city management was iteratively conceptualized, prototypically implemented and evaluated. The basis is the collaborative elicitation of citizens needs through a web platform, which is centered around a shared visualization supporting interactions between citizens and municipalities (Novak & Preuße, 2011). In a first approach, an Open City Cockpit has been conceptualized with a split view of citizens’ needs (green) and municipalities’ budget plans (blue), which could be collaboratively discussed by users (see fig. 1, left). In a second approach, the concept was reduced to its core element, the visual map with citizens’ needs and municipalities’ expenses (see fig. 1, right). Both approaches aim at creating boundary objects connecting the different perspectives of the two stakeholder groups.

Using an HTML Click-Dummy, the first approach was evaluated with two focus groups. Responses were generally positive towards the data analysis tool, but the evaluation showed that a certain level of experience with applications of a similar complexity was necessary to fully understand and use the participation tool of the system. A certain interest of familiarizing oneself with government data is also a prerequisite not all users stated they had. The Open City Cockpit addresses some of these issues by providing a broad range of tools, e.g. a game-like application as a means of motivation, but further investigation is necessary to assess their possible suitability.
The simplified platform from the second approach was deployed in cooperation with the municipality of Frankfurt/Oder, Germany, for a longer pilot study (available at http://elocal.humboldt-uni-berlin.de/). On the platform, citizens can post their needs, which are localized on the visual map. Common Web2.0 tools are available (forwarding posts to social networks to mobilize supporters, commenting and voting functionality) to identify topics that are relevant to a larger body of citizens. Posts are forwarded to municipal administrators to provide feedback, initiating an online dialogue not only between citizens but between the two stakeholder groups. Municipal administrators can also inform proactively about their own initiatives and actions, thus asserting their perspective.

Activating citizens and local actors

To activate an initial set of users, different strategies were pursued. Several user workshops were organized, targeting a heterogeneous group of citizens engaged in the community. Yet, most workshops took place with low attendance, probably due to participants’ different backgrounds and time constraints. Motivating them to use the platform over a longer period was also difficult and resulted in just few posts. A workshop with administrators was more successful as it was supported by the mayor, and participants were encouraged to voice concerns and important topics (Novak & Preuße, 2011).

To overcome these activation challenges, civil society initiatives were involved as local disseminators. With their support, the Elocal project was presented during regular initiative meetings and as a result, members used the platform to inform about their projects and important topics, and contributed insights into the local civil society structure.

In cooperation with such local initiatives, 2 user evaluation workshops took place, the first for a group of senior citizens (8 users, avg. age 69) and a second workshop open to the public (5 users, avg. age 39). After a task-oriented introduction enabling users to explore the platform themselves, user technology acceptance, aspects of the interface and the general concept were evaluated with a questionnaire based on the UTAUT framework (Venkatesh et al., 2003). Table I displays an excerpt of the results.

Table I. Excerpt of formative evaluation results (Workshop 1 / Workshop 2).

<table>
<thead>
<tr>
<th>UTAUT</th>
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</thead>
<tbody>
<tr>
<td>Performance Expectancy</td>
<td></td>
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</tr>
<tr>
<td>I would find the system useful for civic participation.</td>
<td>1</td>
<td>3 / 2</td>
<td>3 / 3</td>
<td></td>
</tr>
<tr>
<td>Using the system enables me to accomplish civic participation tasks quicker.</td>
<td>2 / 1</td>
<td>3 / 2</td>
<td>3 / 2</td>
<td></td>
</tr>
<tr>
<td>Using the system increases my productivity as an engaged citizen.</td>
<td>2 / 3</td>
<td>2 / 1</td>
<td>4 / 1</td>
<td></td>
</tr>
<tr>
<td>Using the system makes it easier to be engaged as a citizen.</td>
<td>2</td>
<td>4 / 2</td>
<td>2 / 3</td>
<td></td>
</tr>
<tr>
<td>Attitude toward the technology</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Using the system is a bad / good idea.</td>
<td>3 / 1</td>
<td>5 / 4</td>
<td></td>
<td></td>
</tr>
<tr>
<td>The system makes civic engagement more interesting.</td>
<td>1 / 1</td>
<td>2 / 2</td>
<td>5 / 2</td>
<td></td>
</tr>
<tr>
<td>Elocal would improve the relationship between citizens &amp; municipality.</td>
<td>1 / 1</td>
<td>2 / 2</td>
<td>5 / 2</td>
<td></td>
</tr>
<tr>
<td>It’s important that municipal projects are presented on the platform.</td>
<td>3</td>
<td>5 / 5</td>
<td></td>
<td></td>
</tr>
<tr>
<td>The visual map in addition to the list of citizen needs is helpful.</td>
<td>2 / 1</td>
<td>6 / 4</td>
<td></td>
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</tbody>
</table>

The results indicate that the overall acceptance is positive, and that the concept of a shared visualization of citizen needs and municipal actions seems important to users. But the positive acceptance results are not mirrored in the user activity (over the course of the closed pilot study, 30 registered users generated 25 requests). Informal feedback from a discussion round indicates that the platform is mostly seen as a tool for communication with the municipality (“I didn’t have any more requests to the administration”), rather than communication between citizens, and that supporting activities are needed to keep the platform present in users offline life (“After a few days, it slipped my mind”). Frequent platform news updates and other measures are therefore needed to engage citizens in ongoing online activity.
Connecting social conversations

To solve some of the described challenges, the Elocal project now aims at connecting the many existing social conversation channels: offline and online conversation, conversation between citizens, municipal administrators and local actors. Local “offline” contact points are envisioned, to offer regular introductory sessions and assistance. Such contact points could also act as local think tanks where citizens innovate on topics that are discussed online. To connect the various conversation channels between citizens, social data analysis will be applied: Based on geo-localized information, user-generated social media posts can be associated with specific regions, i.e. individual municipalities. Thus, citizens’ preferences, opinions and common topics in the community can be extracted. The extracted data could be visualized, allowing citizens to find a larger variety of accessible and relevant topics, which could lead to more user activity on the platform and help overcome the cold start problem. Administrators can easier keep track of hot topics within the city, adjusting budget, policies and actions accordingly. The social data analysis approach could thus work well for smaller communities, where it may not be possible to reach many users from the start and generate sufficient content to keep them interested over time. Involving local initiatives by supporting them to use Elocal for their own purposes, e.g. to inform about their projects, brings them into the conversation loop as well.

In this way, a boundary object could emerge that connects and visualizes conversations and perspectives of all local actors, instead of only facilitating bi-directional communication between municipalities and citizens. The challenges and opportunities that arise from these considerations are a starting point for discussion at the workshop, and may identify possible other solutions.

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References