Carolin Schröder

Through Space and Time: Using Mobile Apps for Urban Participation

Suggested Citation
Schröder, Carolin: Through Space and Time: Using Mobile Apps for Urban Participation. - In: Parycek, P.; Edelmann, N.: Proceedings of the international conference for E-democracy and open government 2015 : CeDEM15. - Krems: Donau-Universität. - ISBN: 978-3-902505-69-9. - pp. 133–142.

Through Space and Time: Using Mobile Apps for Urban Participation

Carolin Schröder

Centre for Technology and Society/ Technische Universität Berlin, Hardenbergstraße 16-18, 10623 Berlin, Germany, c.schroeder@ztg.tu-berlin.de

Abstract: *With the introduction of ICT, new dimensions of participation have developed: e-participation and m-participation. This contribution focuses on the latter and questions whether m-participation can be considered as a specific method of participation or as a separate concept. Special attention is given to the concept that m-participation challenges existing conceptions of space and time from an urban planning perspective.*

Keywords: *m-participation, urban development, urban space, ubiquity*

Acknowledgement: *This work was partially funded by the FlashPoll project, which is funded by the EIT ICT KIC.*

1. Introduction

With the introduction of ICT, new dimensions of participation have developed: e-participation and m-participation. This contribution focuses on the latter and questions whether m-participation can be considered as a specific method of participation or as a separate concept that is subject to the characteristics of mobile devices. While there are certainly several similarities to be found between technological and socio-political aspects that are being ascribed to both e- and m-participation, some research results provide hints that m-participation really isn't just "e-participation with mobile devices" (Wernecke 2007).

1.1 Research Question and Methodology

One characteristic ascribed to both e- and m-participation is the ubiquitousness in time and space of ICT. This might challenge existing assumptions of context-related participation and urban development processes (Zeile 2012). In the following, this contribution tries to analyse in what terms mobile apps challenge the importance and meaning of time and space in participation processes.

After a short literature review on the benefits of e-participation in general and mobile apps for participation in urban development, aspects of opening the temporal and spatial dimension of participation will be described and analysed from an urban planning perspective. This will be added to by test results and reflections on an ongoing research project that develops a mobile polling app for urban development. Empirical insight was gained on a small scale by short

interviews with 21 people - ten randomly chosen municipal administrators and eleven members of civil society in 2013 and 2014. All interview partners had been introduced to the app in question, and took part in at least one poll before reacting to a short list of expressions in order to characterize the app. These short interviews aimed at understanding how and why this specific mobile app could be used by both members of civil society and administrators. Answers, in consequence are subject to the specific features that the app offers. In addition, consequences for m-participation will be discussed and conclusions for their uses in urban contexts will be drawn.

2. Mobile Apps in Urban Development

General potentials of e-participation listed in the academic literature refer to a greater efficiency of processes, to greater productivity as well as societal impacts (European Commission 2009; Haller/ Höffken 2010). In addition, positive effects on regional or national democratic systems are being hoped for by the introduction of ICT (European Commission 2009; see table 1).

Table 1: Important opportunities and challenges of the application of ICT to participation (European Commission 2009: 7).

Issues	Opportunities and challenges
Decision and policy making initiated by government	ICT can exploit the vast reserves of data the public sector has available to develop, model, visualise and simulate decisions and policies. Also by involving constituents through political representatives or directly through processes of information, consultation, active participation and elections.
Empowerment from the bottom	ICT can help to leverage the voices and expertise of huge numbers of individuals and groups, setting their own agendas and developing their own policies in new forms of 'crowdsourcing', mass collaboration and mass creativity.[3] This can also result in short term single issue politics, and sometimes in instant street politics and forms of mob-rule, but can potentially also build to more permanent countervailing power bases possibly at odds with governments.
Empowering communities and localities	ICT can support the extension of participation beyond formal politics and the ballot box, by promoting subsidiarity at local and neighbourhood level. This leverages local resources, know-how and skills for developing new forms of advocacy, support and social capital, which can both strengthen diverse cultures and interests as well as bridge between them.
Transparency and openness	Can be supported by ICT through freedom of information and consultation, to reveal the purposes, processes and outcomes of government, also through real-time tracking and tracing. This will help place responsibility, reduce corruption and make decisions more responsive, although legitimate privacy and the space for risk taking should be safeguarded.
Accountability, rights and responsibilities	ICT contributes to these becoming blurred as decision and policy-making are opened up and government shares the stage with other actors. Important questions are raised about whose voices are heard and who do they represent, with the ever present danger of trivialisation and short-termism unless the right to participate in policy making is balanced with some responsibility for policy impacts.

The term m-participation is commonly used to describe participation via mobile devices such as smartphones and tablets [1], quite similar to e-participation which is defined as "the use of ICT to support … democratic decision-making processes (Macintosh 2004)". In the context of urban planning, the definition would be more precise stating that e-participation refers to the goal-oriented interaction of civil society and administrators/ politicians via Internet and mobile devices.

When referring to a similar or the same definition for e- and m-participation, it should be questioned whether the potential positive aspects of mobility and mobile devices have been

acknowledged enough. Nonetheless, some additional benefits of introducing smartphones and tablets (m-participation) are listed in the academic literature; they include

- to facilitate instant communication, interaction and support between groups and individuals (Zeile; Knudsen et al. 2011, Evans-cowley 2011). In addition, mobile participation (m-participation) is being placed in relation to more playfulness, more productivity and responsiveness (Evans-Cowley 2011).
- to allow for better connecting administrators, experts and the public (Evans-Cowley 2011),
- to provide better quantitative and qualitative data on individual lifestyles and choices Höffken/ Streich), and, rather visionary,
- to strengthen the role of citizens ("citizen planners"; Drohsel et al. Jahr 499f) and to bring forward "citizen planners (that) will soon join professionals in our search for the liveable cities of tomorrow" (ibid. 508f; cp. Haller/ Höffken 2010).

Mobile apps for participation in urban development are a recent, but growing segment in the landscape of mobile participation.

While these hopes were formulated by people who see the contribution of ICT to participation in a rather positive light (compare, for example, table 1), there are also critics who doubt benefits of m-participation, mostly because of the poor quality of socio-political aspects such as information, transparency paradoxes, poor communication cultures, digital divides, populism, elitism or social polarization need for constant monitoring (Evans-Cowley 2010; Lindner 2007; Ertiö 2013). Others criticise in turn that the introduction of ICT to participation has any or major effects on socio-political aspects: "From the point of view of democracy the technology of communication [it] is of minor importance in relation to how different means of communication are connected to planning and decision-making" (Bäcklund/ Mäntysalo 2010).

3. Amplification in Spatial and Temporal Dimensions

In the context of urban planning, the most distinctive feature that might add to the value of mobile apps is that it "amplifies participation in a spatial and temporal dimension and … widen the range of possible uses for urban planning and design" (Höffken 2010). Ertiö (2013: 3) argues similarly and emphasizes the portability of the devices as "the biggest benefit of mobile participation".[1]

Compared to other areas of implementation, the overall percentage of apps that relate to participation in urban planning and development seems to be small. Most existing apps simply provide information, many allow for social interaction in the form of information sharing between users or between users and administrators (Evans-Cowley 2011; Conroy and Evans-Cowley 2006). Rather successful are so-called issue management or reporting apps that allow users to instantly interact with local administrations regarding public services.[2] Some other mobile apps offer education on various urban development topics (Evans-Cowley 2011; Zeile et al. 2012). Polling

[1] Additional equipment, such as cameras, GPS, audio, voice recognition, and other sensors might even widen the use (Ertiö 2013) towards crowdsourcing, participatory sensing, emotional mapping (Estrin 2010) or towards urban storytelling, 3DS, augemented reality, Near Field Communication (NFC) (Evans-Cowley 2011; Zeile et al. 2012).

[2] Ertiö (2013) argues in this context that "The increased popularity of reporting apps has, at least momentarily, caused a 'lock-in' of these features without considering the versatility of technology at hand.

apps, or crowdsourcing apps on the contrary exist for almost anything, except for the field of urban development (Bohoj et al. 2011). But according to a European report, the variety is growing as different forms and degrees of interaction between administrators and civil society can be found (Figure 1).

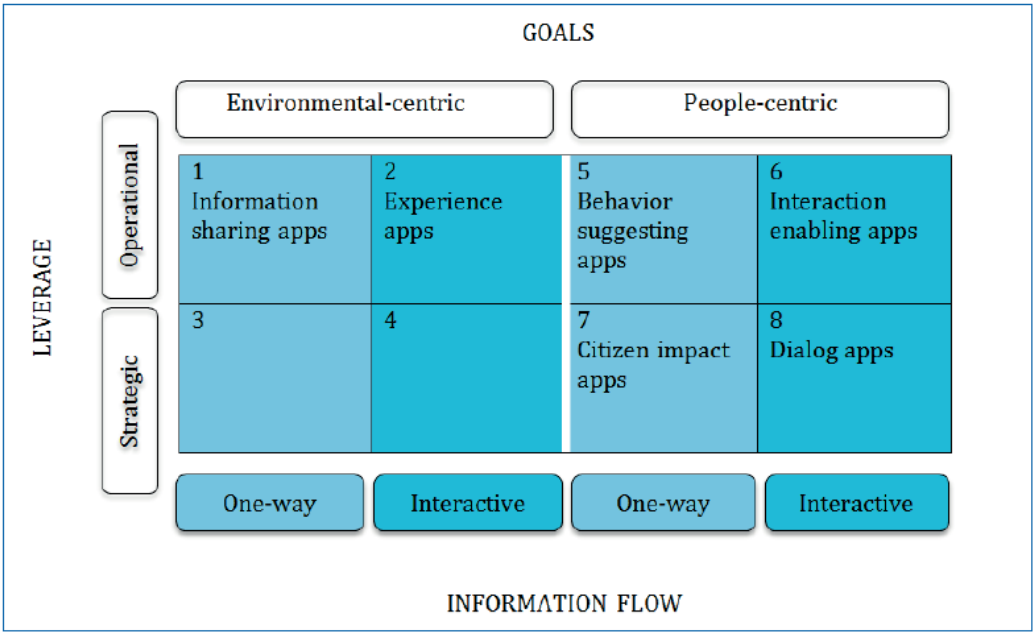

Figure 1: Typology of participatory planning apps (Ertiö 2013: 4).

And despite the rapidly growing number of mobile applications in general , it has to be stated that, in practice, "the impact of participatory planning apps is modest" (Ertiö 2013), that "mobile features are not so extensively exploited in e-participation contexts" (Wimmer 2013) and that in academia "mobile participation has so far not reached wide attention as a concept"(Wimmer 2013). An exception is indeed the urban planning sector where people from different disciplines explore the introduction of ICT and mobile apps to urban participation.[3]

So, why do we know so little about m-participation? One possible reason is the low number of actual implementations and case studies since the emergence of the idea of m-participation some ten years ago. According to a German study, conducted in 2011, 75% of German municipalities see e-participation as a means to create more opportunities for participation. Even 80% indicate that they do already offer it, but only every second municipality considered their e-participation offers successful or very successful (Materna 2011). This goes along with findings from Cape Town (Bagui/ Bytheway 2011) and with findings on m-participation from the FlashPoll project that will be presented below (Schröder 2014).

Ubiquity in *space* alludes to the idea that all services are accessible from any place for anyone (ubiquitous connectivity, Castells et al. 2006). In the context of participation this means that neither

[3] An overview, though very rudimentary, can be found in the references.

participants nor facilitators need to be physically present at a meeting place. First and foremost, this is an asset for users and civil society and works only if the opportunity for m-participation is known. Ubiquity in *time*, in contrast, alludes to the idea that all services and participation offers are accessible at any time (day and night), and that participants and facilitators do not need to be physically present at a specific time. This again, is mostly an asset for users/ civil society - and somehow contradicts the idea of real-time interaction which may be facilitated through ICT (Castells et al. 2006; Höffken/Streich 2011).

Indirectly, both aspects can be considered as a positive asset for administrators as they might increase the number and diversify the groups of users, but both ubiquity in time and space work only if the opportunity for m-participation is known. The portability of the devices (especially of smartphones) in that context adds to this effect of ubiquity and allows the users, in principle, to use these apps in all situations of daily life. The question is whether they make a difference to participation and to democracy too.

4. FlashPoll: A Specific Mobile App

FlashPoll (flashpoll.eu) is a mobile app aiming at a qualitative better integration of civil society in municipal decision-making processes through location based, instantaneous polling and opinion-giving. The original impulse to start the project was a hope to overcome shortcomings of face-to-face participation and to develop a tool that:

- facilitates instant, place-related interaction between individual members of civil society and urban planning administrators and politicians by polling within a limited time and space and
- makes participatory processes in urban development more productive, shorter in time and more transparent by avoiding high coordination and transaction costs,

Basically, FlashPoll works as follows: After downloading, users can take part in instantaneous, geo-located polls. Polling is possible within a specified physical space such as a building, a neighbourhood, a city or a region. Polls do consist of an introduction text, several questions and a final remark. Polls can have different lengths, allow for different answer options (single, multiple choice, ranking, scale, open text). Results are visible via the app immediately after polling and after a poll has been completed.

In consequence, each person that downloads the app and visits a given polling area will be invited to take part in a poll. With this specific feature, the developer team wanted to make sure that people have been to the respective area at least once and are thus familiar with the space targeted through a poll. The idea to offer short questionnaires enables users to give their opinion right away *in situ*, or if they wish to reflect on the questions, they can answer any time later from anywhere.

In accordance with figure 1, FlashPoll could be described as a people centric, limited interactive mobile app on both the operational and strategic levels (with leverage in both areas). At this stage of the research process, several small-scale tests have been conducted in Germany, and users were asked about their opinions of this mobile app.

4.1 Amplifiction of Participation in a Spatial Dimension

With FlashPoll, polls can be accessed within a limited space, the specific geofence. Each poll only becomes visible if the users have physically been within that geofence (what the poll is about) at least once. All 21 interviewees answered the questions within the respective geofences and in the physical presence of a team member. While the interviewees were able to download the app, to answer the questions and to obtain information on the mobile app and the topic of the polls from the team member, everyone else who did not have the opportunity to visit the polling space was excluded from the polls. In that regard, participation via FlashPoll is as exclusive as face-to-face participation and somehow negates the ubiquity of access that is often associated with the use of ICT in urban participation – unless one manages to mobilize users to visit the polling space.

From a different perspective, not only legal residents can be invited to participate but also short-time visitors, people without legal voting rights, people that work in those areas, i.e., people who are sometimes hard to reach by any informal participation. On the contrary, setting up and answering the polls can be done anywhere. This is an asset for both users and administrators as it allows for setting up or answering from the workplace, in bed, or during the holidays.

Given the fact that the questions in some tests were quite simple, closely related to the specific test situations[4] and rather asked for personal rather than for informed opinion, users tended to answer the questions right away and did not opt for polling later at a different place. With a wider geofence and less specific questions[5], users were less inclined to answer the polls.

4.2 Amplifiction of Participation in a Temporal Dimension

With FlashPoll, all polling services can also be accessed around the clock within a limited time span that may last from one hour to several months. This might be considered as a major asset for users/ civil society. Realtime interaction (Castells et al. 2006; Höffken/Streich 2011) can be enhanced if the time span for polling is short or if the final results are integrated in some sort of discussion. Otherwise, interaction is not very much in real time. Setting up a poll can be done conveniently any time, e.g., during working hours.

What seems to have more influence on the type of m-participation that can be implemented with FlashPoll, is the project's objective to develop a *fast* tool. The portability of the devices (especially of smartphones) allows the users, in principle, to use these apps in all situations of daily life. But the screen size of a smart phone visually limits the length of texts, the number of answer options, the degree of detail of pictures and maps as well as the general amount of information provided within the app. Fast Polling, on the other hand, asks for poll designs that make sense for the users and allow for quick understanding and answering. Results of the interviews indicate that descriptions of polls should be as short and precise as possible. Both questions and answers provided should be rather precise than short (single-word answers were not very popular as they left too much in the uncertain). Polls should also provide different, carefully chosen ways of answering which means not only single and multiple choice questions, but also – where suited – scales, or pictures (Schröder 2014). Nonetheless, there seems to be not much correlation between

[4] Questions such as: „How did you like this event?", "Which ideas for improvement do you have?", Which features of the app do you like best/least?" etc.

[5] "Did you already participate in urban development processes?", What do you think about e-participation?"etc.

the time-span of a poll and the number of users: A longer time of polling (for example one week or four weeks) did not necessarily result in higher numbers of participation. The majority of the interviewees explained in that context that being in personal conversation about the mobile app as well as about a specific topic was the major motivation to take part in the polls.

5. Consequences for M-Participation in Urban Contexts

Most participation urban planning is limited in space and time: Participation processes run for a certain time on a specific topic which in many cases is space- or place-related. At their best, urban participatory processes are well integrated in both administrative/ political structures and communities of different sizes (Nanz/ Fritzsche 2012: 24). In consequence, it should be asked which app is best suited for what purpose, target group, objective, etc. It should also be asked in which cases the amplification of space and time, the ubiquity of services is a positive asset – and in which cases it might be counterproductive to the quality of a participation process. The concept of FlashPoll consciously challenges the idea of spatial and temporal ubiquity – a feature it shares with (many) other urban apps for information, issue management or deliberation (Ertiö 2013; Drohsel 2010) and that similarly can be found with face-to-face participation where different tools (i.e., apps) are being designed and used for different purposes (Nanz/ Fritzsche 2012).

Looking at empirical results, it remains unclear whether m-participation allows for a larger and more diverse group of participants. Assumptions that m-participation may allow for more and more diverse participants and contributions are not easy to verify: For one, the number of case studies available is very limited. For another, as happened while testing FlashPoll, the overall number of users was too small to draw conclusions. Regarding diversity, test results were even more disappointing: While the gender divide with eParticipation is getting smaller "because of the different ways in which men and women are taking advantage of the proliferating opportunities for more interactive and relational technologies" (Oser 2012: 9; Fallows 2005), this cannot be assumed for m-participation yet: People that participated in testing FlashPoll were mostly male, middle-aged, politically and technically interested and already participating in public discussions. This is definitely related to the context in which the app was used and needs further exploration.

One final remark when it comes to talking about numbers of participants: The app is being developed for an urban development context, and the number of potential users is therefore limited. Civil society must be professionally or individually interested in either urban development in general or the topic of the respective poll – or be curious about the new app.

A major practical challenge for reaching larger and more diversified groups of participants is – according to the experiences of the FlashPoll team - to make the app's existence known to institutions and to members of civil society – even if the geofence is very small and local forms of information about the participation process are targeted through different media and formats. The number of people reached seems to be higher if a test announcement is either publicized through several online and offline media, coupled with a specific event, or an on-going face-to-face participation process (Schröder 2014). In accordance with that finding, even the actual participation process seems to be more popular if offline, online, and mobile solutions are mixed complementarily (European Commission 2009). But such a multimedia process is, for one much more resourceful than a straight e- or m-participation process, and for another, this challenges assumptions of an easily achieved ubiquity of mobile and electronic participation.

6. Conclusion

In consequence, it can be doubted if the overall assumptions on ubiquity of services can be realized with each mobile app to the same degree. In the case presented, smartphones proved to be a good device for fast polls and quick answer displays because answers can be presented right after the polls and can be accessed instantly by municipalities as well as members of civil society (Schröder 2014). In consequence, the specific features of FlashPoll can be modified and improved. This may not serve all purposes in urban development as more detailed information and communication are certainly needed in many participation processes.

But if users of mobile apps for urban participation prefer in general to click prepared answers to write open text, and if the screen size of a smartphone or tablet has an effect on the general structure of a poll, this might indicate that m-participation allows on the one hand for (instant) interactivity, for fast, ubiquitous collection of opinions and for quick public visualisation of answers. On the other hand, it may indicate that with such a type of m-participation there are limits to the qualitative understanding and voicing of the participants as motivations, reasons and lines of argumentation may not be explained via single or multiple choice answers. Thinking further, one could ask what consequences this has for the relations of socio-political and technical aspects of m-participation. From a different perspective, it could also be assumed that the potentials of mobile apps in amplifying spatial and temporal dimensions are not yet explored fully.

Mobile apps for participation in urban development are one of many tools and methods for ICT-supported participation processes. Results from the tests and interviews indicate that a greater mobility of participation can be achieved and should be explored more systematically. "FlashPoll" as an instant tool for informal opinion-giving might facilitate a specific form of participation, but with its specific objectives and technical architecture, FlashPoll certainly has its limitations when it comes to facilitating urban participation. And it is unlikely that it will be successful if it remains a stand-alone application; something it has probably in common with other urban apps and urban participation apps. Another major challenge – and in that m-participation does not seem to be very different from face-to-face and e-participation - is the motivation of users, both in civil society and administration to use smartphones and tablets to give their opinions on various topics.

References

Bäcklund, P., Mäntysalo, R. (2010). Agonism and Institutional Ambiguity: Ideas on Democracy and the Role of Participation in the Development of Planning Theory and Practice – the Case of Finland. *Planning Theory*. 9(4). 333-350.

Bagui, L. and A. Bytheway (2011). *An ANT exploration of m-participation in the city of Cape Town*. In. Proceedings of the CIRN Prato Community Informatics Conference 2011.

Bussmann W. (1997). Evaluationen und intensive demokratische Beteiligung: Ergänzung oder Ersatz? In. *Swiss Political Science Review* 3(2). 1-101.

Castells, M. Fernandez-Ardevol, M. Linchuan Qiu, J. Sey, A. (2006). *Mobile Communication and Society: A Global Perspective*. Cambridge: MIT Press.

Drohsel K. M., P. Fey, S. Höffken, S. Landau, P. Zeile (2010). *Mobile Applications in Urban Planning*. In: Jens Geelhaar, Frank Eckardt, Bernd Rudolf, Sabine Zierold, Michael Markert (Eds.) MediaCity. Interaction of Architecture, Media and Social Phenomena, Bauhaus Universität Weimar, 499-523.

Ertiö, T. (2013). *M-participation: the emergence of participatory planning applications*, RESEARCH BRIEFINGS 6b/2013, City of Turku, Turku Urban Research Programme, Turku.

European Commission (2009). *European eParticipation Summary Report*. Brussels: European Commission. Retrieved January 22, 2010 from http://ec.europa.eu/information_society/activities/egovernment/library/reports/docs/european_eparticipation_summary_nov_2009.pdf

EU 2012: *e-Participation Best Practice Manual*: in: http://e-participation.eu/wp-content/uploads/2012/10/eCitizeni_manuaal_A4_ENGLISH-1.pdf (2013-10-18).

Estrin, D. (2010). Participatory sensing: applications and architecture [internet predictions]. *Internet Computing*, IEEE 14.1: 12-42.

Evans-Cowley, J. There's an app for that: Mobile applications for urban planning. In: *International Journal of E-Planning Research* (IJEPR) 1.2 (2012): 79-87.

Evans-Cowley, J. (2010). Planning in the Real-Time City: The Future of Mobile Technology. *Journal of Planning Literature*. 25(2). 136-149.

Haller S. and S. Höffken (2010). *New communication tools and e-Participation: Social media in urban planning*. in: Manfred Schrenk Beiträge Zur 15. Internationalen Konferenz Zu Stadtplanung, Regionalentwicklung und Informationsgesellschaft Lulu.com. 495-505.

Höffken, S. and B. Streich (2011). *Engaging the Mobile Citizens–How Mobile Devices Offer new Ways of Civil Engagement*. In: Schrenk M., V. V. Popovich, P. Zeile (eds.). Proceedings of REAL CORP 2011. ISBN: 978-3-95031 10-1-3 (Print)

Knudsen, A-M. S., Harder, H., Simonsen, A.K., and T. K. Stigsen (2011). *Employing Smart Phones as a Planning Tool: The Vollsmose Case*. Proceedings of the 4th Nordic Geographers Meeting, Roskilde, Denmark.

Macintosh. A. (2004). *Characterizing E-Participation in Policy-Making*. In: http://unpan1.un.org/intradoc/groups/public/documents/un-dpadm/unpan038449.pdf (2013-10-27).

Materna (2011). *E-Partizipation in der Öffentlichen Verwaltung*. In: http://egov.hs-harz.de/attachments/article/101/ePart-Studie2011_web.pdf, 2014-06-13.

Nanz, P.; Fritsche, M. 2012: *Handbuch Bürgerbeteiligung - Verfahren und Akteure, Chancen und Grenzen*. Bonn: Bundeszentrale für politische Bildung.

Oser J., M. Hooghe and S. Marien (2012). Is Online Participation Distinct from Offline Participation? A Latent Class Analysis of Participation Types and Their Stratification, in: *Political Research Quarterly*. http://prq.sagepub.com/content/early/2012/02/15/1065912912436695.

Schröder C. (2014). *A mobile app for citizen participation*. In: ACM Digital Library. Proceedings of EGOSE 14 (to be published).

Schröder, C. (2013). *Some reflections on possible uses of E-participation for the local level*. In: Proceedings of the CeDEM14, International Conference for E-Democracy and OpenGovernment, Krems/ Austria. http://go.shr.lc/1tVy1m6

Weith, T. (2007). *Stadtumbau und Evaluation*. In: Weith, Thomas 2007 (Hrg.): Stadtumbau erfolgreich evaluieren. Waxmann Verlag. Münster, S. 11-25.

Wernecke, F. (2007). *Mobile Partizipation: Schnelle Beteiligung per SMS am Beispiel der Initiative Mindestlohn*. In. E-Partizipation. Beteiligungsprojekte im Internet. Stiftung Mitarbeit. 297-307.

Wimmer, M., R. Grimm, N. Jahn, J. F. Hampe. (2013). *Mobile Participation: Exploring Mobile Tools in Eparticipation*. In: Electronic Participation. Lecture Notes in Computer Science Volume 8075. 1-13.

Zeile, Peter, Guido Kebbedies, Bernd Streich (2012): *Städtebauliche Methodenentwicklung mit GeoWeb und Mobile Computing*, in: M. Schrenk, V. V. Popovich, P. Zeile, P. Elisei (eds.). Proceedings REAL CORP 2012 Tagungsband. ISBN: 978-3-9503110-3-7 (Print).

About the Author

Carolin Schröder

Carolin Schröder is Head of the Participation Research Unit at the Centre for Technology and Society, Technische Universität Berlin/ Germany. Her research focuses on all sorts of participation, on sustainable urban development, and on inter- and transdisciplinary research. One of her current projects is: FlashPoll – Developing a municipal