E-Participation Platform Features and Design Principles

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Abstract: Austria has seen some efforts in e-participation initiatives during the last years, for instance in the area of urban design. However, a single official platform ("one-stop"-principle) comprising many e-participation processes for a broader target group is so far missing. In the KIRAS project "ePartizipation" researchers and practitioners have worked on a demonstrator for a platform that seeks to integrate multiple online identification methods and is able to offer activities on different levels of e-participation. This paper describes the conceptualisation of the platform and the inherent design principles, in particular related to Privacy by Design and e-inclusion.

1. Introduction

E-participation is an interdisciplinary research field (Ringler 2013) and often seen as a means to increase participation in political decision making. In particular in the early stages of e-participation, projects sought to integrate a high number of users. Later stages focused more on inclusive design and quality of contributions instead of mass participation. Sanford and Rose (2007) mention the socio-technological design of the system as a major challenge. Certainly there are a lot of accompanying measurements to be taken, in particular if e-participation platforms are meant to be hosted by officials, the state or public authorities, and if they are to attract a big variety of users. Not only measurements fostering digital inclusion have to be taken into account (Macintosh et. al. 2009, Horrigan 2005, Heussler et al. 2016), but also regarding privacy and data handling processes of the system (Hoepman 2014). Moreover, there are specific measurements on the project level that offer users some flexibility in participation, for instance regarding the selection of different methods of electronic identification: from official e-IDs offered by the state or more popular solutions like open or social e-IDs, users should be able to choose their preferred way of identification, if feasible. On some levels of e-participation (e.g. consultation), it makes sense to grant users more flexibility.

In the following we will describe the conceptualisation and design features of the platform demonstrator with a particular view to the integration of multiple online identification methods. We will further address the relevant design principles reflected the platform. The results of the two-year project (both from the mapping and the actual platform design) may help other e-participation platform designers in their own design or evaluation process.

1.1. Project Aims and Methodology

The aim of the Austrian project "ePartizipation" is to design a platform demonstrator that can be used as a single site for multiple e-participation purposes and on many levels of e-participation; (from information to consultation, cooperation and co-decision (Parycek et al. 2015)). One of the subgoals in the project was to map different methods of online identification and authentication methods with different activities of e-participation to find out about the appropriateness of specific e-IDs on a particular level of e-participation. For instance: "Which e-ID is appropriate on the level of consultation?" By integrating the work of e-participation experts in a focus group, interviews, and workshops, the e-IDs were mapped according to two dimensions: quality of identification data and participation threshold. (see figure 1) The results of this model are reflected in the scenarios of the demonstrator, but could also be valid for e-participation platform designs and officials who need to decide on the appropriateness of a specific e-ID for an e-participation process. The model was introduced to fellow researchers at a workshop at CeDEM15 (Sachs and Schoßböck, 2015). Feedback showed that the task of mapping e-IDs and e-participation activities was challenging, but the results were overly approved.

Figure 1: Methodology of mapping e-participation activities with e-ID method. For details on the model see Parycek et al. 2015.
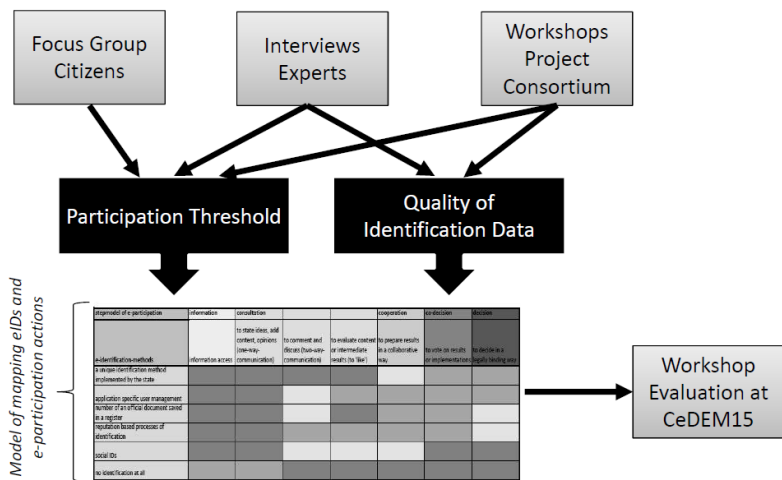

Alongside the output of the requirements report, the technicians within the project consortium commenced the development of platform architecture and the platform itself. At current state, the platform is in the final development phase to include all functionalities for the testing with users. While usability tests were integrated in the development of the platform, user acceptance tests in

spring 2016 will provide an assessment on how the public perceives the platform and the context of e-participation. User acceptance tests will include work-related and urban planning scenarios.

1.2. Project Implementation

The concept and the implementation of the projects allows high flexibility in the usage of the tool. On the one hand side, hosts of e-participation processes can design their processes according to their needs (see figure below on the left side). This means that a discussion activity can be followed by co-decision activity, which can be the end of a process or again be followed by a discussion.

Figure 2: On the left: User interface for administrator to choose and order participatory action. On the right: User interface to select an electronic identity for authentication. The demonstrator is currently in development, so the screenshots provide a first impression of the prototype.
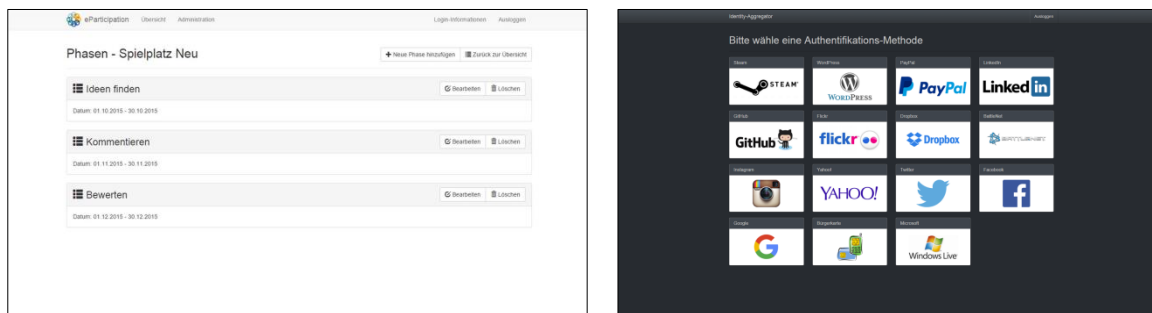
On the other hand, the platform allows the integration of multiple e-IDs for authentication. The host of e-participation processes (the administrator of the platform) can choose no, one or more e-IDs for each individual participation activity. That means that multiple e-IDs can be allowed in one participation process. While the activity of stating ideas could f.i. be open for Facebook and Twitter-IDs, the process of co-deciding as the subsequent step could be only allowed to users that login with a unique ID implemented by the state (e.g. in Austria: Citizen Card). The graphic above on the right shows integrated social IDs and the Austrian Citizen Card (the latter in bottom mid).

2. Platform Features and Design Principles

Regarding the design of the platform, the following features and design principles are reflected in the design of the demonstrator:
- Integration of multiple online identification methods (e-IDs)
- Aspects of e-inclusion (Design for All)
- Privacy and Security by Design

In the following, we will describe those features and their application to the platform demonstrator.

2.1. Integration of Multiple Online Identification Methods

One aspect of digital inclusion or e-inclusion is already reflected in the flexibility of being able to choose between different e-IDs (both for users and providers). E-participation providers are advised to implement a multiple identity management system that allows users to participate in some processes completely without registration (e.g. commenting). In all multi-levelled processes of e-participation, it is recommended to offer open or social media IDs (Open IDs), which will enhance usability for specific groups. The model below seeks to provide a generalised approach for usually individual e-participation processes.

Figure 3: Recommendations for the use of specific e-IDs for e-participation activities. Dark field = not recommended; gray fields = highly situation dependent; light fields = recommended.

levels of e-participation / e-identification methods (IDs)	information	consultation			cooperation	co-decision	decision
e-participation activities	to access information	to state ideas and opinions one-way-communication	to comment and discuss two-way-communication	to rate and choose (e.g. to like)	to collaborate	to vote on results	to decide in a legally binding way
unique ID implemented by the state	dark	dark	dark	dark	gray	light	light
application specific user management	dark	dark	gray	light	light	light	light
number of an official document saved in a register	dark	dark	dark	dark	light	light	gray
reputation based ID	dark	dark	light	light	light	dark	dark
social IDs	dark	dark	gray	gray	gray	dark	dark
no ID	light	light	dark	dark	dark	dark	dark

The multiple e-ID management system allows the hosts of e-participation processes guidance in selecting appropriate and already existing e-IDs. For many activities it is recommended to include multiple e-IDs in order to make registration convenient for users. This allows users some flexibility in selecting e-participation processes and their preferred method of online identification. Needless to say, that the activity of co-decision (or decision) should allow only an e-ID with high security standards, while the activity of accessing information or stating ideas should generally not require registration. However, as most e-participation platform targets different person groups and is set for specific purposes, these recommendations can only be guidelines.

2.2. Inclusion of Target Groups: E-inclusion and Design for All

Another aspect of e-inclusion is the concept Design for All, based on the idea of accessibility. As design for "human diversity, social inclusion and equality" (EIDD Stockholm Declaration, 2004) it describes the effort to promote universal design (as opposed to different viewing designs) in internet based technologies, and avoids the need for a specialised design. Inclusion of people with disabilities should be a central aim for official e-participation projects, as providers which are public authorities have to design accessible platforms. Private providers have to do this according to their capabilities or resources. Independent from the question of whether an accessible e-participation design is reasonable for providers, there are some simple features enhancing

inclusivity and accessibility which are reflected in the platform design. For reasons of inclusivity, it is recommended to always offer an application specific user integration in addition to more specialised e-IDs preferred by a certain target group. The demonstrator is fully functional on a PC or other devices like tablets as mobile integration was considered in design too. For further development of the tool, other features like operability via keyboard only are recommended. Instead of creating different viewing versions, in accordance with the "Design for All" (Leidner 2007) idea, one version is recommended, in order to not stigmatise users with special solutions.

2.3. Privacy and Security by Design

Privacy and security by Design (or privacy by technology) describes the integration of data protection and privacy in the complete technology lifecycle, from the early design stages to implementation, usage, and abandonment of the service (Europäische Kommission 2010), as opposed to from the implementation stage (Terbu et al. 2016). One of the principles of Privacy by Design is data minimization, amongst other data or process oriented strategies. (Hoepman 2014). In the project, researchers relied on a scrum based (Schwaber and Sutherland 2013) software development process with systemic mechanisms for the implementation of security and privacy requirements. They defined dedicated privacy and security sprints and teams in the process. In the project, this process model has been applied in a simplified form, due to the small size of the team and the software (Terbu et al. 2016). User stories relevant for privacy and security found their way in the product backlog. In the sprint planning, they are estimated with classic user stories and in story points, which also enhances awareness for privacy and security among the developer team. The developer team described the experiences with the process model as very positive and would encourage other project developers to utilise it or elements of it in practice (Terbu et al. 2016).

3. Outlook

The project contributes to the increased demand by citizens, governments and public administrations to further include the interested public in democratic discourse and decision making. The use of the internet for political and democratic purposes, inclusive and user-centred approaches provided, could lead to better informed decisions and collaboration with citizens. Further details on the demonstrator tool and results from acceptance tests will be available by the end of the project in autumn 2016. The project contributes to the discussion on the interface of digital identities and participation and shows users some application scenarios for using online identification methods from social media IDs to unique IDs issued by governments.

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