

Chapter 53

Citizen Participation via Mobile Applications: A Case Study on Apps in Germany

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ABSTRACT

Participatory smartphone apps empower citizens to interact with the city's administration. The purpose of this case study is to investigate the current state of participatory apps in Germany. Within this study, we examined 248 applications aimed at strengthening citizen participation. These apps were found in Google Playstore and Apple Appstore using search terms extracted from the relevant literature. Many of the apps give users the opportunity to report problems within their cities, such as broken street lamps or potholes. The information created and disseminated by the citizens through the app mainly includes the topics "mobility" and "environment." Information provided by the city itself is much more diverse. Topics such as "Points of Interest," "News and Events," "Government" or "City Services" can be identified here. In the southern part of Germany, there is a significantly larger number of municipalities which have a citizen participation app. None of the apps examined uses gamification, although the use of game elements is very promising to foster the engagement and motivation of citizens.

1. INTRODUCTION

Through digitization and mobile phones, citizens become able to communicate anywhere and anytime with their government. This possibility may lead to increased transparency and enhanced democracy. Smart Cities are not only about becoming smart by using technology but also by empowering citizens to interact with their city and in particular with their city or municipal administration. This kind of interaction is called E-participation, and it is recognized as a key factor in developing Smart Cities (Vrabie & Tirziu, 2017). Citizens create knowledge regarding their city and thus help their city and their fellow citizens to improve the city further and make it a comfortable place. Citizens interacting with the public service expect efficiency and effectiveness as well as social values (Abu-Tayeh, Portmann, & Störmer, 2017). It is essential to understand that E-participation requires more than putting a new garment on old services. New, innovative ways of actively involving citizens in urban development must be found. The smart and digital technologies, which are available via smartphones, could help here. This Mobile Participation (M-participation) may remove barriers of time and space and allow users to participate independently of location and time.

In this study, we investigate what kind of smartphone applications exist to involve citizens in a city's development, decision making, and administrative processes. As a case study, we investigate currently available apps in German municipalities and compare the offered topics and features of these apps. Besides, we provide ideas to increase involvement in citizen participation apps by suggesting the use of gamification in M-participation. A common problem in E-participation is the lack of motivation and the sustained commitment of citizens. A possible approach to address these issues is the use of game elements. Video games and gaming as such are ubiquitous in human life through technological advances in the digital revolution (Deterding, 2012). Games as an entertainment medium offer the opportunity to motivate a player intensely over a long period. So, it seems to be a logical conclusion that the use of game elements can increase the motivation, activity, and performance also in a non-playful context. This results in a variety of applications for a concept that is termed "gamification" (see, e.g. Deterding, Dixon, Khaled, & Nacke, 2011 and Seaborn & Fels, 2014). Gamification is already being used in sectors like health, education, employment, finance, media or marketing.

Looking at the scientific literature, a few approaches that examined the use of gamification for M-participation can be found. These studies have shown that game elements have the potential to enhance the motivation of using such a mobile system (Deterding, Sicart, Nacke, O'Hara, & Dixon, 2011) or at least can be used as an initial incentive to become active in an M-participation app (Thiel & Lehner, 2015). Among the game mechanics used in mobile systems, five elements are most common: points, levels, quests, achievements, and leaderboards. Some of them are mutually dependent, so they are often used together in one system.

Probably the most frequently used game mechanic are points (also called Experience Points / XP). Points can be assigned for almost all actions a user can execute in a system. Point-based incentive mechanisms have been shown to increase motivation and to impact the behavior of users (Farzan et al., 2008). Bianchini, Fogli, & Ragazzi (2016) assign points in their E-participation platform for submitting proposals or adding solutions to specific problems.

Points can visualize the user's progress, and often a certain amount of points causes a player to reach a higher level. Often, these levels are publicly visible, which both strengthens motivation (users want to reach higher levels), promotes competition, but can also be an important indicator of a user's reliability or activity. Quests or challenges are little tasks players have to fulfill within a game. By completing

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