Chapter 69
Making Citizens' Activities Flourish Through a Crowdsourcing–Based Social Infrastructure

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ABSTRACT

We now typically live in modern cities, where ubiquitous computing technologies such as advanced sensing enhance various aspects of our everyday lives. For example, smart phones offer necessary information to make our everyday lives convenient anytime, anywhere in the city; energy management and traffic management have become smarter, making our everyday lives more convenient and efficient. However, from a citizen perspective, the well-being of citizens needs to be more essential than merely achieving efficient and convenient smart city infrastructures. We think that this issue is particularly crucial for establishing the next generation of smart city design. In this chapter, we propose a social infrastructure named flourished crowdsourcing to make our society flourish, so diverse citizens will live comfortably and happily. To achieve a flourishing society, one of the most essential issues is making diverse citizens activists who will participate in socially collective activities. Traditional approaches such as gamification typically make it possible to guide the social activities of the average number of citizens, but it is not easy to maintain activities for diverse citizens. By incorporating fictionality into the real space, our approach is to increase the social awareness of citizens to achieve a flourishing society within each citizen's community so that they see the necessity of their contribution. To design and analyze fictionality, we also propose a gameful digital rhetoric as design abstractions. The design abstractions are extremely different from traditional approaches; designers can explicitly focus on the enhancement of the meaning in the real space from multiple perspectives; thus designers can change the meaning incrementally according to rapidly changing social situations or citizens' diverse preferences.

INTRODUCTION

When designing future advanced smart cities, maintaining a desirable lifestyle from the citizen perspective is a promising research topic. There have been numerous previous studies that have focused on efficient physical resource management such as energy and traffic management in underlying smart city infrastructures. However, in a future aging society, the well-being of citizens will become more crucial than building resource-efficient smart city infrastructures; this is an essential design approach in next-generation smart city design. To overcome the abovementioned issues, altering citizen's attitudes and behaviors is crucial because adopting traditional ubiquitous computing technologies that focus on resource efficiency cannot by itself overcome the serious social problems of the present (Institute of Government, 2010; Stimmel, 2015; Wolfe, Malone, Heerwagen & Dion, 2014). Recently, some researchers have started to investigate how technologies and design strategies can make people flourish (Desmet, Pohlmeyer, 2014; Quercia, Schifanella, Aiello, 2014).

Our research goal is to establish a design guideline to enhance our lifestyle towards a more desirable level in urban cities, where many citizens live, to enable them to realize human well-being. Seligman defines well-being theory (Seligman, 2011) as a theme of positive psychology. In his book, he identifies five factors needed for humans to flourish in the PERMA model, including *positive emotion, engagement, relationships, meaning,* and *achievement*. The factor of human well-being steers people towards desirable behavior. For example, a husband and wife who have positive images of one another can create a fruitful married life. Additionally, positive emotions reduce the risk of catching a cold or an infectious disease. Seligman claims that people without positivity tend to think that there is no way for them to improve their everyday lives whereas people with high positivity can act to have meaningful and productive lives (Layous & Lyubomirsky, 2014; Seligman 2011). Therefore, developing a next-generation smart city infrastructure should take into account how such an infrastructure helps people achieve human well-being to guide their desirable human behavior.

In our current society, we have many serious social problems that we need to overcome. To overcome some of these problems, a top-down approach may not work well. In typical cases, governments or certain ambitious individuals may tackle the problems, but most of the remaining people merely stand as spectators to their activities to overcome the problems. Then, finally, no one has any interest in performing the activities needed to overcome the problems. Now, our world has become increasingly complex, and the top-down approach does not investigate a variety of complex social issues because one issue is unconsciously connected to other issues and observing these effects in advance is not easy. Therefore, each citizen needs to cope with these issues locally. For example, to achieve sustainable environments or realize a healthy social lifestyle, the participation of diverse citizens in the activities to achieve these goals is essential. We call a society in which diverse citizens voluntarily attempt to overcome these problems *a flourished society*. In the flourished society, citizens need to increase their self-awareness regarding how they should contribute to achieving the flourished society, and they need to establish intrinsic motivation to participate in the activities to make our society flourish. However, most citizens do not understand what they need to do to achieve a flourished society. A future social information infrastructure to guide citizens' collective human behavior will help them understand and suggest what they need to achieve a flourished society. Some recent work proposed in the positive psychology research community (Layous & Lyubomirsky, 2014; Seligman 2011) offers important scientific evidence to develop a social information infrastructure to guide diverse citizens' collective behaviors towards achieving a flourished society.

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