Urban development in respect to social media – The applicability of the Amsterdam city experience in other European cities

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Abstract – *Social media and digital methods provide people with mechanism that allows them to organise themselves around collective issues and to manage social and infrastructural resources in new collaborative ways. Knowledge of the best practices in the application of social media in the process of urban planning, design and social networking was gained under the Short-Term Scientific Mission (STSM) under the COST Action 1306, and these are discussed, together with a comparison of common public activities in Amsterdam and Sofia.*

It has been proven that with the possibility to support better understandings of the connection between technology, public needs and spatial development, a visual approach could bring valuable knowledge and information. In Amsterdam and in Sofia, there were similar physical activities undertaken by common people and there was not wide use of technology detected, except use of smart-phones. In Sofia, from one side there was not enough knowledge and experience in technology application for urban open space development and, on the other hand, citizens are willing to learn more about Amsterdam's good practices in urban regeneration by actively supporting social media and playful games.

The study is an attempt towards understanding the complex relationship between mobile media, citizens' experience, possible changes in their lifestyles and possible spatial development and planning.

Keywords: public use, social media, smart phone applications, public open space, playful games

I. INTRODUCTION

The city of the future will be one that grows, evolves and responds according to the needs of its inhabitants. Urban society has already entered into an era when information and communication technologies have entered into our everyday life and changed our lifestyle by making it more efficient. It is a time of rapid societal changes that requires more active involvement by citizens as amateur-experts, active participants and agents in the process of urban planning and design. The new technologies and their application enhance problem solving when there is a need for information about location, traffic routes, weather and a schedule of certain institutions and cultural events.

Social media and digital methods are the tools providing people with mechanism that allows them to organise themselves around collective issues, mobilise publics to manage social and infrastructural resources in new collaborative ways. ICTs can open new opportunities for citizens to actively shape the future of their cities by sparking new forms of civic participation, increasing social inclusion and accessibility for persons with disabilities, reducing infrastructural barriers, sharing resources, accessing relevant information and enabling a real-time dialogue in which city administrators and citizens can learn from one another. The application of ICT went even further, with the concept of "smart cities" where a central computer system could collect all necessary data for energy sources, transport, traffic, waste production and disposal and could optimise city life [1].

However, in spite of the fact that it could be a very well organized process, it is seen as too much of a top down approach where the role of the citizens is diminished to only that of a consumer. Thus, the societal transformations cannot be reduced to matters of technological possibilities and the day-to-day value of innovations is deeply embedded in the existing and newly emerging social context. It was already mentioned that cities can "*work well enough, but are open to shifts, uncertainties, and mess which are real life*" and *"should be shaped through citizens acting of their own accord and determining the rules for society together*" [1].

And because, it is known that *"we know very little about how individuals perceive the value of ICT products..."* [2], much more research about the relations between ICT, social media and people is needed.

Regarding social media, there is a different typology of Facebook, Twitter and LinkedIn users depending on their own needs motivation and level of activity. Innovative software made possible the unification of growth of processing, storage, networking and graphic platforms in one device – mobile phone - and this enabled people to stay in touch constantly. For example, in spite of the relatively slow level of economic development and social security, Bulgaria is one of the fastest growing Internet market economies in Europe with about one third of the Bulgarian population having an active Facebook profile [3].

However, our dependency on ICT and smart phones raises a number of questions that need to be answered by a wide range of professionals and policy makers, because there could be a negative impact of frequent use of smart-phones over social interactions and health. For example, specially developed mobile phone applications (app), such as "CitySense", has been used for collection of users' mobility details in order for new places to visit in urban areas to be recommended. However, by using this app the majority of individuals actually look for places visited by people of a similar age, education and taste and it led to "ghettoization" of the urban space [1].

There could be also negative changes to behaviour in terms of a decrease of safety and our everyday life. This was studied in the city of Seattle where it was discovered that *"nearly one-third of pedestrians (29.8%) were distracted by their mobile devices while crossing the street. It was found that the most absorbing distraction was listening to music*

(11.2%), followed by text messaging (7.3%), and using a handheld phone (6.2%). Compared to pedestrians who were not distracted, those who were texting took 1.87 seconds longer to cross and were four times more likely to not look where they were going, disobey traffic lights, or cross outside of the crosswalk."[4].

The role of social media, digital forms and gaming that could be the real alternative to standard formats of public involvement and public consultation in urban development had been the focus of short term scientific mission (STSM) under the COST Action TU 1306 "Fostering knowledge about the relationship between Information and Communication Technologies and Public Spaces" (CYBERPARKS)". The STSM was carried out by the author in Amsterdam in May, 2015, when the positive aspects of the use of technology and mobile phones was discovered in several cases. One example was playful activities of the group "Play & Civic Interaction Design" at the Amsterdam University of Applied Sciences, led by Prof. Dr. Ben Schouten. The mission of the group is *"...to address a changing perspective on design, one in which users is defined as social and economical factors who co-create products and services"* and *"With civic interaction design, we mean the design of products and services that enable citizens to improve the quality of both their individual and communal lives, and that equip them with agency to act as citizens in a media-saturated world".* [5]

In Amsterdam there is experience in physical gaming used as a method for collaborative decision making, conflict resolution and engaging multiple stakeholders in resolving complex urban challenges, such as "Play the City" concept by Dr. Ekim Tan. This is the game designed to work with public and private clients – city authorities, consulting companies, think thanks and NGOs. It is used as a problem-solving method bringing top down decision makers together with bottom up stakeholders. [6].

"Hackable City" is a research project of University of Amsterdam (UvA), Amsterdam University of Applied Sciences (HvA), Utrecht University (UU), and The Mobile City with active collaboration with the SMEs as best practice for converting the common top down approach in urban master planning to bottom up. The project stated that: *"This is not only due to the financial crisis but also due to societal changes that involve citizens as amateur-experts, active participants and agents of change. Digital media provide people with tools to organize themselves around collective issues, mobilize publics, and manage social and infrastructural resources in collaborative ways. This do-it-yourself city making occurs in multiple domains, from energy production to the organization of healthcare, from the management of public housing to the appropriation of the urban public sphere."*[7].

Another good example of the positive impact of the participatory approach in urban regeneration is "ModelMe", a collaborative project between Burton Hamfelt Architectuur Stedebouw Prototypes and Saskia Beer from "Glamourmanifest" company. The project included innovative urban design tools and pioneering practice of door-to-door contacts and online communication with different stakeholders in the area in order for successful urban re-development of the Amstel-3 area to be achieved.

In other capital city for this study – the city of Sofia - there are a few examples of a bottom-up approach in decision-making for public open space regeneration and there is not much experience in achieving a higher standard in urban environmental quality through creating innovative urban design by using interactive media. One good example was an initiative undertaken in support of Sofia's candidacy for European capital of culture 2019 where a better cultural and artistic image of Sofia were stimulated by introducing interactive installations, engaging the citizens' attention and participation prototypes in real urban environment [8].
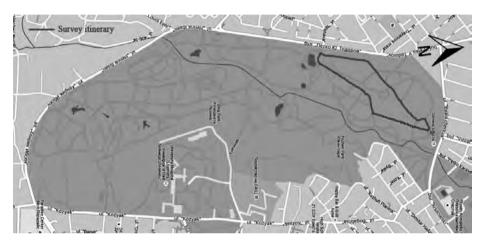
Fig. 1. Yuzhen Park in Sofia - map with survey territory marked

The main objectives of research were: 1). To disseminate Amsterdam city's experience on the relations between social media and public space; 2) To evaluate the applicability of these practices in Sofia and 3) To look at the correlation between public activities in selected parks in Amsterdam and Sofia and use of technology.

II. RESEARCH METHODS

For the purpose of the article, the knowledge and experience gained by the author during the STSM in Amsterdam has been taken as a positive starting point for the application of social media and technology in urban development. The objectives have been achieved in a three-staged methodology: 1) Introduction, discussion and evaluation of Amsterdam's good practices; 2) Visual observation and relative comparison of use of technology in selected parks in Sofia and Amsterdam and 3) A small scale ethnographic study with park visitors in Sofia.

The first stage started by introducing the selected good practices from Amsterdam ("Play the city", "Hackable Cities" and "ModelMe"), followed by a discussion about these cases with a group of 12 students from the University of Structural Engineering and Architecture in Sofia. During the discussions, participants have been asked to evaluate these practices with regard to their possibility of being applied in urban development of Sofia.

The second stage was conducted through visual observation of public activities in two public open spaces – "Vondelpark" in Amsterdam and "Yuzhen park" in Sofia. Both sites have similar characteristics – they are centrally located, multi-functional and most often visited park areas. "Vondelpark" is cited to be among the most often visited recreational places in Amsterdam [9], whereas "Yuzhen Park" is proven to be tied with most appreciated public open space in Sofia, according to previous studies of the author [10].

The third stage was implemented by a small-scale ethnographic survey and interviews with 25 park visitors of "Yuzhen Park" in Sofia. Interviews had been carried out in order to get information on social interactions and use of technology. The itinerary of the survey has been chosen in a way to cover the most visited sites of the park (Fig.1).

III. RESULTS AND ANALYSES

The information listed above about good practices in Amsterdam - "Play the city" game, "Hackable City" research project and "ModelMe" of "Glamourmanifest" initiative have been introduced to students in the field of architecture and urban planning and they have been asked to evaluate the practices presented according to their applicability in Sofia. The results are presented in Table 1.

TABLE I. EVALUATION OF BEST PRACTICES IN AMSTERDAM

QUESTION DISCUSSED	BEST PRACTICES PRESENTED AND DISCUSSED		
	Play the city	*Hackable Cities*	*"ModelMe" of Glamourmanifest*
1. Do you like the case-study? Yes/No	91% positive	83% positive´	75% positive
2. Do you think it is applicable? Yes/No	75% positive	66% positive	66% positive
3. Are you ready to use it in your practice/study? Yes/No	66% positive	41% positive	33% positive
Concluding remarks	Interesting and challenging example	In general it is applicable, but local context have be ensured	Specific knowledge, strong motivation and persistence needed
Ranking by level of applicability	1	2	3

Note: Ranking 1- the most applicable; 2- medium level of applicability; 3 – least applicable.

All three best practices have been well understood and appreciated by the group of 12 students asked. Participants stated they would like to apply such practices in their work. Concerning the possibility of being applied in Sofia, the "Play the city" concept has been evaluated as the most applicable, as this example represents a good example of simplified reality with possibly complex issues to be made accessible both to experts and non-experts.

Through this game, participants could be provoked to play a game by taking new roles and to present their views for the development of certain urban areas.

The "Hackable city" approach had been given a second place in the rankings and the reason is that it could be applied to Sofia if the local context, regulations and culture are fully considered. "ModelMe" of "Glamourmanifest" initiative had a third place in the rankings, as it was thought that it could be successful only in a case where there are persons with urban planning or architecture backgrounds, strong motivation, knowledge and persistence to be involved.

Sample photos (Photos 1-6) present comparative visual observations on public activities in the two selected public open spaces. In spite of differences in economic development and cultural industries, people have similar types of activities in "Vondelpark" in Amsterdam and "Yuzhen Park" in Sofia. The most common activities in both parks were walking, play with children, enjoying nature, exercising and resting (Photo 1-4). There were few cases when people were engaged with technology or social media, mainly using their mobile phones for talking or texting (Photos 5, 6).

TABLE II. PREFERENCES AND NEED FOR TECHNOLOGY IN VISITING THE PARK

QUESTIONS ASKED	ANSWERS IN % FROM THE TOTAL ASKED				
1. What do you do when you visit the park?	Walk 32%	Rest 16%	Sport and play 20%	Social contacts 24%	Other; no special reason 8%
2. Do you use any kind of technologies during your visit?	Smart phone 40%	Internet 16%	Games 12%	Social media 8%	Other 24%
3. Do you want to be informed about the technology regarding urban development and how?	Informational screens 28%	Smart phone apps 20%	Playful actions 8%	Social and cultural events 32%	Other; have no idea 12 %

Regarding connection between use of technology and spatial development of the park infrastructure, small-scale changes in park design have been observed. Previous study in "Yuzhen Park", conducted by the author five years ago, shows that there were certain places with free Wi-Fi access [11]. Now, with the development of mobile phone technology such places end up neglected and ill equipped (Photos 7, 8). According to participants interviewed, such places need to be regenerated and equipped with modern technology, such as informational public screens or interactive kiosks.

Photo 1. Physical exercise in "Yuzhen Park", Sofia

Photo 2. Physical exercise in "Yuzhen Park", Sofia

Under the third stage of the research, 25 regular visitors of "Yuzhen Park" were approached with the following three questions with multiple-choice answers:

1. What do you do when you visit the park? –Walk and walk the dog; Make social contacts; Relax; Sport; Play with children; Other.
2. Do you use any kind of technologies during your visit? Smart phone; Internet; Games; Social media
3. Are you interested to learn more about possibilities of technology for information and more effective participation in urban development processes? Informational screens; Smart phone apps; Social and cultural events; other.

The results presented in Table 2 show that a majority of people asked (40%) are using their smart phones, usually for talking and texting. About a third of those interviewed visited the park for walking, to walk the dogs and play with children (32%) and about a quarter (24%) used public open space for enhancing their social life. Another quarter (24%) do not use any kind of technology during their stay in the park.

In terms of the future needs of technology in the park, one third of the people interviewed (32 %) do want to be properly informed through modern technology about social and cultural events in the city. Approximately one third (28%) of those interviewed claimed that they need to have more informational public screens and kiosks. Smart phone apps are an interesting solution for about 20% of the people asked and these were predominately younger people. There were not many people (8%) interested in playful actions and about 12% - mostly older people - are not interested in the application of new technology.

Photo 3. Walking trail in "Vondelpark", Amsterdam

Photo 4. Walking people in "Yuzhen Park", Sofia

Photo 5. Texting in quiet, "Yuzhen Park", Sofia

Photo 6. Playing and texting, "Yuzhen Park", Sofia

Photo 7. Former free Wi-Fi hot-spot,
"Yuzhen Park", Sofia

Photo 8. Old fashioned playground elements
near Wi-Fi hot-spot, "Yuzhen Park", Sofia

IV. CONCLUSIONS

Professionals and experts expect that future cities will become more heterogeneous and complex. In this respect, social media and smart phone apps will enhance more active physical and social interactions and will help citizens to be more active towards accepting uncertainties of real life. Thus, with the development of technology, there is a newly emerging social context in terms of the inclusion, health care and changes in behaviour patterns that also need to be taken into account.

The study proved that a visual approach could bring valuable knowledge to meet challenges of undertaking effective bottom-up approach in urban planning process with its possibility to enhance understanding of the connection between technology, public needs and spatial development.

In the selected park areas, in Amsterdam and in Sofia, similar physical activities have been undertaken by people. There was not a wide usage of technology detected in both places, except more or less regular use of smart-phones by visitors. Visitors used their mobile phones for talking and texting and it happened at the same time as exercising activities like walking, or walking the dogs, and playing with children.

Under the case study in Sofia, it became evident that, on one hand, there was not enough knowledge and experience in the application of technology for the purposes of urban open space development. On the other hand, citizens showed a willingness to learn more about existing good practices in urban regeneration in Amsterdam that actively support social media and playful games and involvement in playful methods and social media interrelations. The students were asked if they liked the "Play the City" game and "Hackable city" concepts, because these games were seen as good examples for a participatory approach and a simplified model of a complex urban world and can create the basis for new scenarios, roles and interactions. In addition, it became clear that changes in every-day behaviour in terms of use of technology, could entail changes in the design of public open space.

The study was an attempt towards understanding how the application of social media and technology can develop collective actions around the issues of improved quality of life, environment, healthcare and education in new ways. Urban dwellers have to be able to appropriate and analyse data collected by the ICTs and smart phones in their own way. However, further research is needed for more complete recognition of the complex relationship between mobile media, citizens' experience, possible changes in their lifestyles and possible spatial development and planning.

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