

Towards a Community Support System: Social Media Culture, Games, and Planning Tools

Moozhan Shakeri, Richard Kingston, Nuno Pinto

Moozhan.shakeri@manchester.ac.uk
Richard.Kingston@manchester.ac.uk
Nuno.pinto@manchester.ac.uk

Abstract

Social media is revolutionizing social dynamics and the way people take decisions. For town planners it is important not to see social media just as a supporting tool in data gathering and qualitative analysis but to explore the emergent culture of social media and its effect on the planning processes and decision support tools. This study shows how games and gamification can be used in this new culture to stimulate issue formation and participation among communities.

Introduction

Public participation in the planning process has long been planners' concern. Along with studies on the theoretical foundation of participatory planning (for example see Hillier, 2003; Innes, 1996; Sager, 2006), a great deal of work has been done in the last decade on devising new tools to facilitate these processes (Brown et al., 2013; Kingston, 2011; Shelton, Poorthuis, & Zook, 2015). The use of new technologies in planning practice is gaining more and more traction among planners. Using geo-tagged data extracted from social media, studies on Citizen Science, PPGIS and smart cities are all efforts to use new technologies to empower planners and communities. However the specific context of participatory planning and its requirements is being overlooked in the shadow of all these fascinating innovative technologies (Geertman & Stillwell, 2003; Hopkins, 1999).

Social media has been studied as a tool for data gathering in the last decade (Allen, Regenbrecht, & Abbott, 2011; Geertman & Stillwell, 2003; Hanzl, 2007), however the emergent culture of social media and its effects on planning processes has not yet been fully studied. This new culture has changed the way people take decisions, trust and filter information. Therefore understanding this new

culture and reflecting on the planners' role will be critical for the success of participatory practices.

In our study we take the spotlight away from the planners and focus on communities. The possible design of a supporting system for communities and its conceptual grounding is suggested through analyzing the characteristics of this new social media culture and its effect on the social dynamic, knowledge and the power of communities.

Online Word of Mouth

"By the end of this decade, power and influence will have shifted largely to those people with the best reputations and trust networks and away from people with money and nominal power." (Newmark, 2011: x)

A large portion of social media components is built on reputation systems (Dellarocas, 2011). The main assumption behind designing these systems is that the reputation is very much correlated with the trust (Masum, Tovey, & Zhang, 2011). In other words the more popular certain things/people are the more people use/trust them. It is believed that these systems are useful in dealing with information over-load. The rising number of video bloggers on Youtube, photo bloggers on Instagram and 500 million tweets which are sent per day are all indicators of the success of these reputation systems. People use these platforms to discuss their daily life stories, their opinion on certain topics or even just the footage of them watching a video or playing games.

The rising popularity of online storytelling is appealing to planners as the importance of stories and storytelling in planning practice is highlighted by many scholars (Sandercock, 2003; Throgmorton, 2003; van Hulst, 2012). However there is an overall scepticism in all fields over the credibility of the so called "words of mouth" and individuals' stories. The rapidity at which the certain stories spread, such as the misinformation about Ebola and controversies

around the extent of global warming effects are examples of cases which show how trusted sources of information, even scientific ones, are changing. This change might be in favor of some fields such as marketing while it is questioning the communication tools of some other fields, especially scientists. Planning will be no exception to this and it is therefore worthwhile exploring how this change affects why and how people participate in planning practices.

They Will Participate if They Care

Many acknowledge (Healey, 2003; Miesse, 2010) that the practice of participatory planning do not fully reflect its theoretical inclusionary qualities. Participation in some cases is believed to be used in a populist manner to serve the benefit of certain actors involved. Theoretically the role of the planner is perceived as “a critical friend whose task involves [...] shaping attention, guiding judgments [...], mediating and negotiating outcomes, and anticipating and counteracting misinformation, elucidating policy options and implications, and challenging misrepresentations and flawed appeals to legitimacy” (McGuirk, 2001: 198). While planners explore ways to better fulfil their tasks in this context, the public have already found ways to express their concerns and make the change happen.

There are so many cases around the world that campaigns and protests are organized to oppose certain aspects of a plan for the city or neighborhood. Protests against tourism policies in Barcelona or campaigns against replacing local shops with Tesco are all organized by people themselves. However the low percentage of participation in formal public consultations question the effectiveness of ways these practices are done. Reviewing different participatory cases, Leino and Laine (2012) conclude that planners are not very successful in identifying the public’s matters of concern (Leino & Laine, 2012) and this can greatly influence the success of these practices.

Identifying matters of concern is not always an easy task for planners and for the public. However internet based social networks are believed to be really powerful platforms for articulating and sharing problems, interests and ideas. With these new technologies, one’s matters of concern have been expanded to a more global scale. Someone in the UK can sign petitions to save Ecuadorian jungles against oil drilling projects. Therefore to better understand how people’s matters of concern are shaped it is important to explore what sort of topics attracts people’s attention the most in the new social media culture.

Recent studies (Hornik, Shaanan Satchi, Cesareo, & Pastore, 2015; Li & Sakamoto, 2014) reveal that bad news attracts more attention in internet-based social networks. A study by Hornik et al (2015) shows that not only people tend to react more to negative news, they also believe the negative more than positive (Hornik et al., 2015) Having

this information it is worthwhile to explore how planners can reflect on the process and tools of participatory planning.

Planners and Gaming Literacy

The new technologies are changing the way and the extent to which people access information and get involve in different processes. Social media, Web 2.0, participatory GIS, Citizen Science are all tools and concepts which owe their existence to new technologies. Beside these technology-oriented efforts, some planners are seeking to attract people’s attention through making the participatory process more playful and fun (Poplin, 2012).

Gamification, defined as using game thinking and game mechanics to engage users and solve problems, has gained traction in the last decade in different fields. Zimmerman (2009) argues that “gaming literacy” will become extremely crucial in the coming century. Palmer (2014) discusses that to fully make use of gaming literacy we need to have more and more “cross-functional” people; those who have a more general understanding of several subjects besides having a deep understanding of one. But how far are planners from being literate in gaming?

Games have been around in a planning context for a long time (Klabbers, 2009). Besides, planning has been subject to many commercial games. However most of the so-called “serious games” designed in a planning context are related to teaching/learning of planning concepts and the use of games as a tool which can contribute to the process of planning is still in its early stages.

A departure from reality is one of the greatest experiences that games offer to their players (Harteveld, 2011). Many different forms of gaming such as massively collaborative problem-solving games, the location-based mobile-games, trans-media and trans-reality games are often grouped under the concept of pervasive games (Montola, 2005). The pervasive games owe their existence to technological developments. Using technologies such as smart phones, geographical location reporting, social media and augmented reality, these types of games have changed the traditional views on social, spatial and temporal aspect of the gaming experience. Harteveld (2011) argues that games have been intertwined into daily life of people and this has made games a really powerful tool in recent years.

Therefore having the characteristics of social media culture and requirements of participatory planning in mind, the authors have designed a game which can be used to stimulate issue formation and participation among communities.

Mythoplastis

Mythoplastis is a mixture of online and pervasive game and its storyline is based in Manchester. The design pro-

cess of this game follows the iterative agile process in which each iteration results in a playable version of the game. However the main principals of the game design do not change throughout the development process. The two main principles in designing Mythoplastis are as follows:

Principle 1: Ensuring that the game is fun to play

Although fun is a central element of any game, it is usually overlooked in the design of the so-called serious games. To emphasize the importance of this factor, Hartevelde (2011) suggest calling serious games “meaningful games” and Klabbers (2009) suggests that using the term “serious” for defining this type of games is fundamentally wrong. In the case of educational games there is a lot of emphasis on the learning outcome and objectives of the game and it is believed that if the game is too fun it cannot fulfill the learning objective (Hartevelde, 2011) However Koster (2005) using the word “edutainment” arguing that fun in all its form is an education and that all the games teach its player something, even those which are not designed for a specific purpose. Therefore it is important to make sure that the fun element of the game is not overlooked.

Principle 2: Immersion but Not Simulation

In his study in 2009, Klabbers reviewed documents of the very first conference on simulation and gaming which was held in 1970 and investigates why gaming and simulation terms have been used interchangeably in planning practice. His study shows how the early experiences of gaming in planning practice were influenced by the 1960s idea of large scale modeling. Most of the serious games which are designed now in planning still heavily rely on simulation. These games are mainly designed in the cases which implementing different scenarios in real life would be costly or dangerous (Duke, 1980) and therefore simulations can help reduce the cost and risks of the project.

However finding the right balance between reality, meaning and playfulness is not an easy task especially in designing meaningful games. Laramee (2002) argues that “all forms of entertainment strive to create suspension of disbelief, the state in which the player’s mind forgets that it is being subjected to entertainment and instead accept what it perceives as reality” (Salen & Zimmerman, 2004: 450) Simulation however will not offer the player such experience. Therefore in this study the main aim in design would be optimizing the balance between reality, meaning and playfulness of the game.

Mythoplastis Game Mechanism

Having these principles in mind the first version of the game was developed. The main mechanics of this version is summarized in Table 1:

Table 1: Game Mechanics of the First Version of Mythoplastis

Mechanic	Description
Modes	Online or using any smartphone
Narrative	John who is born and raised in Manchester moved to Italy 10 years ago and has lost his memory in a ski accident. Player’s mission is to help John either by telling stories or by using given clues to identify places he has been to.
Core Gameplay	1) Find the places based on clues. 2) Tell john stories about places they think John has to remember 3) Follow the QR codes containing the clues to find the places 4) Reviewing stories people have submitted

Thirty people tested this version of the game in the piloting phase. Six of the participants said that they really enjoyed reading other players’ stories on the map. Twenty five of the participants said they would like to see the pervasive part of the game and the online part of the game more connected. And twenty gave comments on the details of the storyline, such as the age of the main character and the places that he has gone.

With the given feedback in the piloting sessions, the storyline of the game changed and the link between the pervasive part of the game and its online part was improved. The mechanics of the final version of Mythoplastis are summarized in Table 2.

Table 2: Game Mechanics of the Final Version of Mythoplastis

Mechanics	Description
Mode of play	Online or using any smartphone.
Narrative	Certain plants in Manchester are growing out of hand and they are gradually covering buildings and make them not useful. For fighting these plants city has limited amount of substances therefore they need to know which buildings they have to save first.
Core Gameplay	Players can do 4 activities: 1) use the clues to find the place the plants might attack. 2) Add location into missions by submitting stories 3) Scan the QR codes put on the saved buildings and read the top stories. 4) Read and review submitted stories

The other concept which was incorporated in to the design of this version of the game was collaborative game design in which the player can modify certain elements of the game or contribute to the game to make it last longer. In this version the players are given few initial points to start with but as the game goes on, the points are defined based on the submitted top stories (Figure 1).

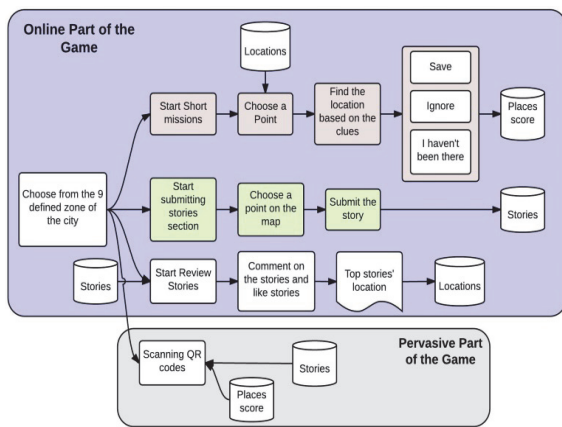


Figure 1: Mythoplastis Game Structure

The final version of the game is now being tested and therefore the authors hope to report on the effectiveness of the designed tool in this stage of the research at the workshop.

Conclusion

Deep understanding of the new social media culture and its effects on social dynamics is a key to the success of participatory practices in the coming decades. This new culture requires planners to rethink their role in participatory practices. They also need to adapt their tools to the requirements and routines of the social media culture. This does not only include exploring potentials of social media as a supporting tool for planners, it also includes studying how these new technologies are changing the way people take decisions and who they trust.

Considering the complexity of dealing with these issues in the real world, games will become really useful. Reputational systems can easily be incorporated and tested in the games. Games are very flexible tools for tackling different aspects of social media culture. Despite the potential of gaming in the planning context, the use of games in real practices is still in its early stages.

References

Allen, M., Regenbrecht, H., & Abbott, M. (2011). Smart-phone augmented reality for public participation in urban planning. Paper presented at the Proceedings of the 23rd Australian Computer-Human Interaction Conference, Canberra, Australia.

Brown, M., Sharples, S., Harding, J., Parker, C. J., Bearman, N., Maguire, M., . . . Jackson, M. (2013). Usability of Geographic Information: Current challenges and future directions. *Applied Ergonomics*, 44(6), 855-865.

Dellarocas, C. (2011). Designing the Reputation Systems for the Social Web In H. Masum & M. Tovey (Eds.), *The Reputation Society: How Online Opinions Are Reshaping the Offline World*: Mit Press.

Duke, R. (1980). A paradigm for game design. *Simulation & Games*, 11(3), 364-377.

Geertman, S., & Stillwell, J. (2003). Planning Support Systems: An Introduction. In S. Geertman & J. Stillwell (Eds.), *Planning Support Systems in Practice* (pp. 3-22): Springer Berlin Heidelberg.

Hanzl, M. (2007). Information technology as a tool for public participation in urban planning: a review of experiments and potentials. *Design Studies*, 28(3), 289-307.

Harteveld, C. (2011). *Triadic Game Design Balancing Reality, Meaning and Play* / by Casper Harteveld. London: London : Springer London : Imprint: Springer.

Healey, P. (2003). Collaborative Planning in Perspective. *Planning Theory*, 2(2), 101-123.

Hillier, J. (2003). 'Agon'izing Over Consensus: Why Habermasian Ideals cannot be 'Real'. *Planning Theory*, 2(1), 37-59.

Hopkins, L. D. (1999). Structure of a planning support system for urban development. *Environment and Planning B: Planning and Design*, 26(3), 333-343.

Hornik, J., Shaanan Satchi, R., Cesareo, L., & Pastore, A. (2015). Information dissemination via electronic word-of-mouth: Good news travels fast, bad news travels faster! *Computers in Human Behavior*, 45(0), 273-280.

Innes, J. E. (1996). Planning Through Consensus Building: A New View of the Comprehensive Planning Ideal. *Journal of the American Planning Association*, 62(4), 460-472.

Kingston, R. (2011). Online Public Participation GIS for Spatial Planning. *The SAGE Handbook of GIS and Society*. SAGE Publications Ltd (pp. 361-381). London: SAGE Publications Ltd.

Klabbers, J. H. G. (2009). Terminological Ambiguity: Game and Simulation. *Simulation & Gaming*, 40(4), 446-463.

Koster, R. (2005). *A theory of fun for game design* / by Raph Koster. Scottsdale, Ariz.: Scottsdale, Ariz. : Paraglyph.

Leino, H., & Laine, M. (2012). Do matters of concern matter? Bringing issues back to participation. *Planning Theory*, 11(1), 89-103.

Li, H., & Sakamoto, Y. (2014). Social impacts in social media: An examination of perceived truthfulness and sharing of information. *Computers in Human Behavior*, 41(0), 278-287.

Masum, H., Tovey, M., & Zhang, Y.-C. (2011). Introduction: Building the Reputation Society. In H. Masum & M. Tovey (Eds.), *The Reputation Society: How Online Opinions Are Reshaping the Offline World*: Mit Press.

McGuirk, P. M. (2001). Situating communicative planning theory: context, power, and knowledge. *Environment and Planning A*, 33(2), 195-217.

Miesse, M. (2010). *The Nightmare of Participation (crossbench Praxis as a Mode of Criticality)*. Berlin: Guildford Press.

Montola, M. (2005). Exploring the Edge of the Magic Circle. Defining Pervasive Games. Paper presented at the DAC 2005 Conference, IT University of Copenhagen.

Newmark, C. (2011). Foreword: Trust, Reputation Systems, and the Immune System of Democracy. In H. Masum & M. Tovey (Eds.), *The Reputation Society*: Mit Press.

Palmer, C. (2014). Corss-Functional People Retrieved 12/01/15, 2015, from http://gamasutra.com/blogs/CharlesPalmer/2014/11/21/230661/CrossFunctional_People.php

Poplin, A. (2012). Playful public participation in urban planning: A case study for online serious games. *Computers, Environment and Urban Systems*, 36(3), 195-206.

Sager, T. (2006). The Logic of Critical Communicative Planning: Transaction Cost Alteration. *Planning Theory*, 5(3), 223-254.

Salen, K., & Zimmerman, E. (2004). *Rules of Play: Game Design Fundamentals*: MIT Press.

- Sandercock, L. (2003). Out of the Closet: The Importance of Stories and Storytelling in Planning Practice. *Planning Theory & Practice*, 4(1), 11-28.
- Shelton, T., Poorthuis, A., & Zook, M. (2015). Social media and the city: Rethinking urban socio-spatial inequality using user-generated geographic information. *Landscape and Urban Planning*.
- Throgmorton, J. A. (2003). Planning as Persuasive Storytelling in a Global-Scale Web of Relationships. *Planning Theory*, 2(2), 125-151.
- van Hulst, M. (2012). Storytelling, a model of and a model for planning. *Planning Theory*, 11(3), 299-318.
- Zimmerman, E. (2009). Gaming Literacy Game Design as a Model for Literacy in the Twenty-First Century. In B. Perron & M. J. P. Wolf (Eds.), *The Video Game Theory Reader 2* (pp. 23-31). New York: Routledge.