Fun, games an collaborative plans

Benefits and shortcomings of including interactivity and gaming into the collaborative urban planning

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Abstract. The paper discusses possible benefits and shortcomings of introducing gaming, playfulness and smart technologies as instruments to stimulate collaborative urban planning. Based on their experiences in researching and prototyping models for public participation through gaming, the authors draw conclusions on the lessons learnt, and how to proceed further.

Keywords: gaming; public participation, green neighbourhoods, smart phone applications

I. INTRODUCTION

Interactivity and gaming will change the world, or at least this is how a number of Dutch urban designers are thinking about the future methods of urban planning. In the recent years a combination of growing ICT technologies, open data systems and declining government-directed planning, (due to general economical malaise) suddenly placed the citizens in the position to fill the gaps in the system, and resume more active role in influencing what happens in their own built environment.

Many creative, game-based new approaches have emerged as opposite to the traditional ways of engaging the public in the process of awareness and thinking about urgent issues. These approaches aim to take the urban design process from the higher strata of planning (municipal urban planning departments and professional design offices) to the "streets", literally speaking. The idea that the ordinary citizens ("streets") can hack the city's rigid planning system and plant their own codes (ideas) as well as influence the planning process has great potentials. For urban professionals, this means that there is a possible new role they can fit in, the one of the "facilitators" of urban change through new forms of interpreting spatial / environmental data, communicating it to the citizens and provoking their feedback. Hopefully, this new approach to data gathering and momentum building will contribute to small-scaled collaborative urban planning.

In this context there are two main questions rising:

a) What change, effect or experience could be achieved by applying gaming mechanisms into collaborative urban planning?

b) Which urban spaces could be assessed, created or re-imagined by a crowd / group of motivated individuals using a game as a tool?

Answers to these questions can clarify a bit more the issue of benefits and shortcoming of including interactivity and gaming into collaborative urban planning. We will try to formulate the possible answers by showcasing two projects, Alternate Playgrounds and Green Seeker App Project.

II. ALTERNATE PLAYGROUND

Alternate Playground is a short theoretical research on the possibilities to use gaming as a tool to increase participation of citizens in the process of inner-city renewal (the research was a self initiated project of Milena Ivkovic / Blok74 and Swen Stoop, independent game designer). The aim of the research was to give answer to the following question: which game mechanics can be used for the purpose of facilitating and enhancing the participation and what can we expect as a result?

In the context of pre-crisis participation and urban renewal planning practice in the Netherlands, this is a rather ambitious question. Most of the time citizens got the chance to say something about the plans was when they were already finished, and one step away from realization. If there were no obvious spatial conflicts or big environmental issues, the influence of the citizens came down to smaller adjustments of the plans. In short, the citizens were most of the time seen as obstacles by everyone else included in the planning and implementation process – the municipality, the developers and the design professionals. The reasons for this unfavorable status of "the public" is rather complex, resulting not only from strict "game rules" of the planning process, but also from the questions of ownership and the power that comes from it, the role of the government as a "big planner" and finally, the motivation and ambitions of the citizens itself.

As a first step in defying a new, alternative approach to the grim and dull process of participation and collaboration, Alternative Playground (AP) examines possible links between known game mechanisms and urban space. Almost every aspect of urban space can be subject of a game. To be able to extract the essentials from this wide scope of themes, AP focuses on the enhancing the quality of green public spaces in the inner city as exemplary theme. Further, the research analyzed the interactivity principles of several known gaming mechanisms, (following the suggested definitions from "Chris Crawford on Game Design, Chris Crawford, New Riders Books 2005) and observed how can they be translated to the physical space.

Different gaming mechanisms for different collaboration – the table summarizes possible connections between subjects of collaboration and certain gaming mechanisms. Although the research is not complete and it does not go deeper in the implementation of games in the participation process, (Alternate playground didn't research further into the question of what could be the most suitable technology medium) there are several conclusions that can be drawn from the connections as presented in the Fig 1. As first, it is possible to establish a game-like framework to make complex processes of urban transformation or intervention more comprehensible, and therefore more attractive to the citizens. The question of choosing the right scale is hereby essential – the Alternate Playground concentrates on a neighborhood/ street scale of urban space. Because if it can not be experienced in every day surroundings, it is highly likely that such a game setting will not appeal to the wider public.

Where? Urban scale of the "playground" ?	Type game	How? (general gaming mechanics)	What? / Collaboration subject?
neighbourhood	evidence based game	search and collect. one player, or multiplayers, possibility to extent on a social network	form a data base about the state of green in the neighbourhood
square	simulation	discussing possible scenario's, multiple players	form a platform (movement) around certain green square issues
park	"sandbox game" – game where players use game props to create something new	general creativity, expression of creativity using pre-set tools making /building a space together using game props	form a design of a new park

Secondly, by introducing different gaming mechanisms it is possible to address different levels of participation: an indirect level (like in evidence-based game types, where gathering the information and raising awareness can be the initiator of collaboration), and a direct level, using the decision-making simulation and educating citizens about their role in this process. On the indirect level it is more possible to reach a bigger group of citizens and tackle broader level of urban theme's, while a direct, simulation level narrows the gaming range to a specific group of urban professionals or already motivated groups of citizens.

The difficulty of using gaming mechanisms for participation and collaboration purposes is how to measure the benefits of the transfer of real process/ real spaces in a gaming environment. For example, in the decision-making simulation game it is possible to evaluate the developed knowledge about the process of urban transformation itself, but making real commitments about physical changes remains utterly difficult. The reason for this difficulty is partly because such a step requires a much more complex simulation, which threatens to be too complicated for non-professionals. Following this rationale, the "sandbox" type games leave most space for playfulness and creativity accessible to everyone, and can "serve the purpose of taking a break from reality in order to come to solutions". (source: "Serious Games"(2011) Publication Nr 76, Stichting Toekomstbeeld der Techniek, Den Haag, 2011)

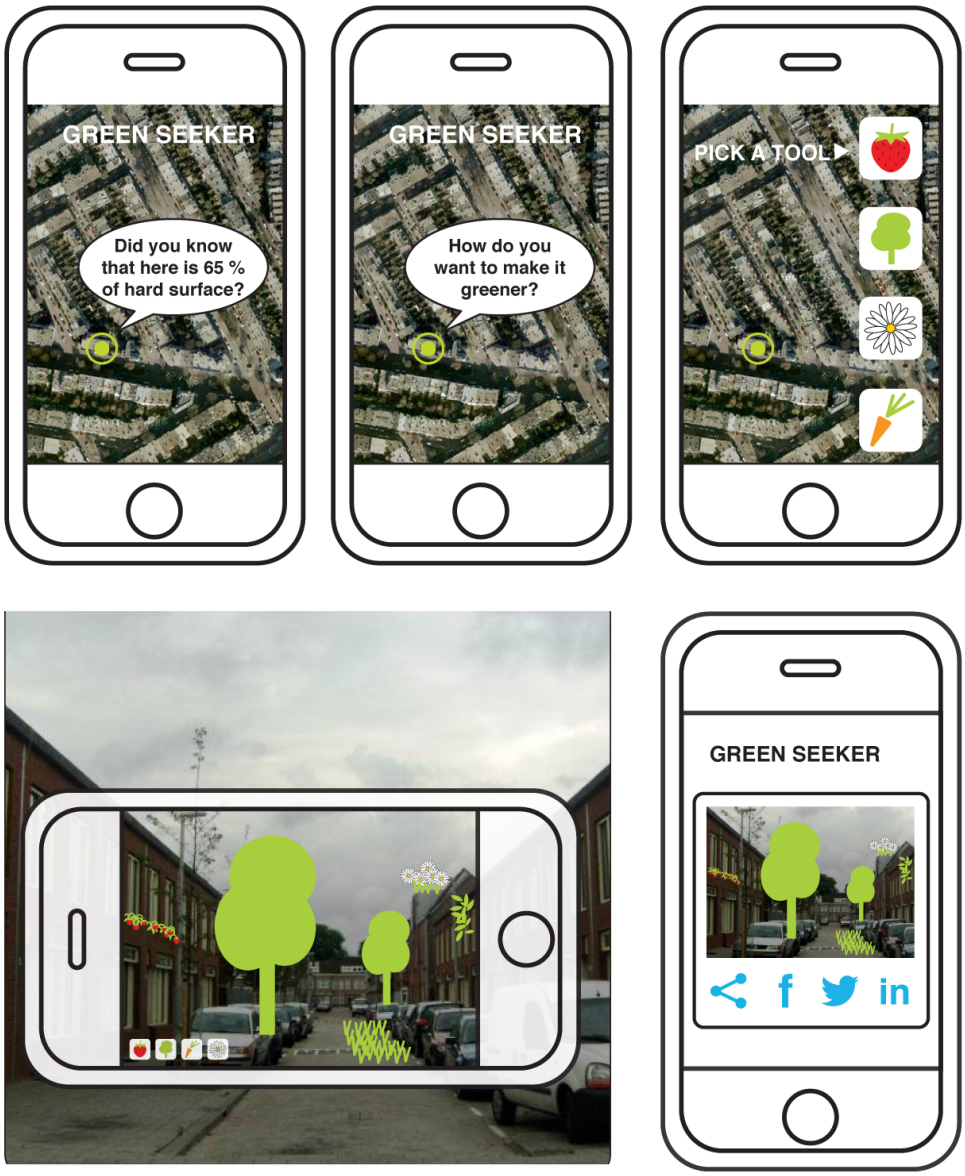
III. GREEN SEEKER

Alternate Playground was a theoretical exercise, a desk research into possibilities of gaming and urban context. Green Seeker smart phone app/game project (Milena Ivkovic together with Berit Piepgras, architect and Robin van Emden, cognitive psychologist and computer programmer) went one step back and concentrated on engaging the locally motivated individual first, and slowly build on the "collaborative momentum", instead trying to address larger crowd immediately.

Gameplay scenario of the Green Seeker evolves around the fact that city's microclimate is damaged by the absence of sufficient green areas. The aim of the gameplay is to unlock the potentials of the city by finding solutions to "battle the high percentage of the hard surfaces / pavement in the immediate surrounding". The ambition of the application is not only to be playful in finding the possible solutions for an urban problem, but also to raise awareness about larger problems (such as the forming of the urban heat islands in the inner cities due to the lack of greenery) through interactive presentation of factual data.

The following schemes explains Green Seeker gaming scenario:

Fig. 1.Green Seeker scenario



Green Seeker allows its user to access information about the availability (presence) of green areas in the urban context at any random point, using GPS positioning system and Google maps. An extra-added optional layer measures the level (%) of hard surfaces, and visualizes it for the user. This real-time information about how "severe" is the presence of hard / concrete pavements serves as a trigger to action, and a starting point that should motivate the user to react with his/hers own suggestions on how to change this threatening factual situation. The game's immediate purpose is to establish the first step – recognition - in raising awareness about the lack of greenery in the inner cities and stimulate individual creative responses to this issue. The game scenario allows players to present their solutions to the larger community through established social media channels or by creating an own network, so the possible collaboration remains highly voluntary.

Adding elements of playfulness to Green Seeker:

At the present moment, Green Seeker is in its rough prototype phase, being still rather serious data driven application, in need to enhance its "playfulness" component. The pragmatic issues around playfulness and interactivity are the following:

1. Incorporating the fun elements

Only "phenomenon observing" with an option to post a comment is definitely not a very motivating experience, lacking the elements of competitiveness,

surprise or challenge. In the case of Green Seeker, the playful element could be to put more emphasis on "fighting the gray with green" figuratively speaking. Following the formulas of popular good-old arcade games, exaggerating and stepping out of real proportions are great fun. Confronting the player with severity of the data /factual situation can be counter-balanced with the extremes: let's shoot some concrete blocks with flowers (more green) and tomatoes (more urban farming, perhaps?)

2. Bring it to the crowds

Should there be a specialized Green Seeker community / social network (as an extension to the game and a outlet to present its ideas)? Is starting of a specific community instrumental to starting of a collaborative plan?

Building an own community (next to already established ones) is maybe a little too much of an ambitious task, and probably not crucially relevant for the level of collaboration. It requires a separate organization for managing the community, channeling the data generated, and therefore making the whole project rather extensive. At the starting point of the app project, with so many uncertain and unpredictable turns and gameplay issues to solve, using a existing popular social networks seem more appropriate as an instrument to engage more players, have more outreach, or present game outcomes and solutions. People engage eagerly in a good set up play, but they don't want to "be" played, by for example, being pushed to form a group or community, especially if that's not the essential part of the whole game mechanics. Green Seeker gives enough free space for spontaneous, voluntary community forming.

The challenge with incorporating serious urban issues in a game package is finding a right audience. Are we looking for the "niche" players, people focused on environmental issues and happy with the opportunity to generate own (scientific) data, or do we want to speak to a wider audience, and seduce them to see their own environment as something to experiment with rather then to be passive observer? From the perspective of bringing urban planning to the people, the second approach seems more interesting, although we can not expect players too dedicated, or very precise outcomes.

3. Serious fun

A subtle definition of "serious fun" is that it feels like a game, it looks like a game, but there are also some serious implications to the game. The next step Green Seekers wants to take is to go further into direction of serious fun - packing "real" urban planning issues into an approachable, fun-to-do thing. The expected added value of this approach is to be able to produce gaming outcomes that can serve other purposes, such as ideas sourcing, evaluation of existing spaces, or quality data gathering. Serious fun can make urban problems more negotiable and establish a first step in opening a dialogue about topics that were previously exclusive or underestimated.

IV. CONCLUSIONS

Benefits

- Undeniably, gaming mechanisms can simplify the complexities of actual planning process, and allow the citizens to "walk in someone else's shoes", (role-play games) be creative (sandbox "built the city" games) or serious (gathering of the factual environmental data), leading to more knowledge, awareness and empowerment. With these new skills acquired, citizens have more motivation to be active part of the planning, or start collaborating to achieve common goals.

- Another potential benefit is the possible shortening of the traditional participation process. By using game as a interactive communication tool planning authorities can "test" certain developments within a safe (and fun) environment, and therefore act far quicker and define up to the point what is strategically important than using a traditional participation methods.

- A game cannot create commitments in a traditional, jurisdictional way, but it can crystallize opinions, and increase the sense of urgency, helping official decision-makers to form strategies at almost any stage of the collaborative planning process. And hereby stimulate and direct self-initiative and facilitate bottom-up/inside-out urban development.

- If "playground" (or "where" the game can be played) is carefully chosen in combination with the already available, preferably low-tech technology, we can expect greater impact. For example, using RFID cards for public transport as game props (as seen in London's Oyster card Chromaroma) or using the "voting" mechanism as a element of fun and playfulness, large public can be motivated to take part in solving urban issues they were not aware of. The game has become a User Interface between citizen and government/town council.

- By focusing on and gaming with one theme (as in this example "green") the complexity of urban development is conveniently downsized to the citizen-gamer. The information gathered through the game can be a possible source of citizen science/crowd sourcing for the urban planner to use in his/her profession.

- Generally, games can create space for playfulness and creativity for anyone, and appeal to anyone by "taking a break" from reality. We can expect that some of the best solutions for the real life problems can be conceived in the game environment, because such an environment gives freedom to improvise and try-out without much constrains or direct implications.

Shortcomings

- A gameplay too much dependent on advanced technological infrastructure slices up the potential players in "niches". If a game or application is employed with aim to facilitate solely small-scale urban renewal a "disadvantaged neighbourhoods", it is difficult to use expensive gadgets such as smart phones, or to require intensive use of Internet from the prospect players.

- The motivation to take part in collaborative or creative process can be very low, due to factors not necessary related to game as an instrument per se. Traditional, institutionalized ways of participation in the

last decades have contributed to mistrust in any form of "top down" collaboration process.

- How to measure the benefits of the transfer of real collaboration process (or real spatial transformation) in a game environment is a serious barrier in applying and developing successful gaming concepts. Different sorts of simulation-based games offer more possibilities for quality measurement of the results of the gameplay, but in the case of urban planning, these simulations tend to be very complex and therefore reserved for professionals-only.

Setting the next step in terms of making real-life commitments or taking concrete actions as a result of a gameplay remains utterly difficult, unless the main aim and purpose of the game was to "design a contract". This, however, suggest more "training" than fun, and the right balance between these two has still to be found.

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