

# Empowering Stakeholders – Simulation Games as a Participatory Method

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## Abstract

In cross-disciplinary projects, stakeholders often come with different abilities to express their requirements or negotiate future scenarios. To meet these different abilities, a participatory approach offers a variety of methods that can create a platform for discussions but not always can exclude emerging hierarchies between different stakeholder groups. In this context simulation games represent an interesting alternative to act and discuss in an altered space by providing a playful approach. This paper reports on the development of *Work A Round*, a simulation game designed for the consultancy and planning in the field of multi-located knowledge work and workplace design. It further discusses, how simulation games might be used in a research context as well and whether they might compete with classical qualitative methods.

**KEYWORDS:** simulation games, participatory methods, architectural planning

## Introduction – expanding the Office by involving everyone

The office's meaning as a place, where we execute different tasks throughout a working day has gradually shifted towards a network of many places where work can be done. Starting at the home office, work might continue while commuting on a train, at train stations or airports, places called "third places" (e.g. Ashforth et al. 2000) and finally the company's main office as well. Especially in the knowledge-work sector, the rising number of tools and devices that enable people to work everywhere opened up multiple possibilities to organise daily work for both, companies and workers. Within this network the main office's role is about to change drastically and some of its original spaces might need to be transformed into other typologies of workplace. According to Amstutz et al. (2013, p. 38) the main office much more needs to facilitate working together as a team by providing key spaces for „formal and informal project collaboration“.

This expansion of the office towards a network of places not only brings a series of new challenges for companies and office workers but also for people involved into the planning and designing of office spaces. More than ever, peoples' requirements regarding the office play a crucial role in the equipment of these spaces. In addition, the office design processes, as well as the change management of a company's work strategies ask for new methods in

order to meet these requirements. From a research point of view, the question raises which research and planning methods could be adequate to accompany these new procedures in order to gain insights into the change from single located towards multi located knowledge-work. Given the strong relation between personal work strategies of each knowledge worker and the overall corporate culture, these methods should involve both parties by providing a participatory approach.

In the field of workplace design so far, many participatory methods are based upon a series of conducted encounters between different stakeholder groups. When talking about architecture, these encounters, and the discussion of multiple scenarios require a common ground for all participants. Many of the elements discussed need to be abstracted such as by drawings, 3D visualisations, architectural models or 1:1 scale prototypes. Only, that in most cases these models or prototypes come with considerable effort and costs. Consequently, the question rises whether there might be alternative methods to foster the dialogue between different stakeholder parties, especially in the early stage of the process. In a research project on multi located work conducted at the University of Applied Sciences and Arts of Northwestern Switzerland (FHNW) and the Lucerne University of Applied Sciences and Arts (HSLU) for the first time we explored simulation gaming as a participatory platform or “stage” (comp. Vaajakallio, Mattelmäki 2014, p. 64) for different stakeholder groups involved into the office planning and consultancy process. Aim of this *stage* was the discussion of future scenarios regardless of our stakeholders’ knowledge level in multi located work, architecture or their hierarchical background at their company.

Our main expectation was to support our stakeholders in their ability to express personal experiences and needs regarding multi-located work, by giving them a chance to negotiate multiple solutions in a playful context. Based upon these objectives we designed *Work A Round*, a board game exploring the possibilities of getting every day office tasks done at places other than the main office. This paper reports on the reasons why we finally decided to design a simulation game and about our first experiences with the game. Further the paper reaches out to question whether simulation gaming might be a suitable method in a research context as well.

## Creating a stage for cooperative learning and empowerment

Within the framework of participatory planning, people’s abilities to express their needs and requirements often are constrained by different factors. Some of these factors might be hierarchical differences between stakeholders, lack of expertise or also the fact that a design process has not introduced any scenarios that are open enough for negotiation (Author, Author, 2015) Eva Brandt and Jörn Messeter (2004, p. 121) stress the importance of scenarios as a “powerful vehicle in designing interaction”. Further they point out the openness of scenarios that help to provoke dialogue and negotiation between stakeholders by “[...] enhancing their abilities of expressing and negotiating design ideas through a game” (Brandt, Messeter, 2004, p. 121).

Even though in Service Design and other disciplines the game approach might not appear to be novel, in the field of architectural planning simulation gaming is a method that is rather rarely applied. Nevertheless, in the field of workplace design two simulation games have been developed for the sake of involving people into a planning or learning process. The first game to appear is the so called “Workplace Game” developed at the Delft Center for

People and Buildings by De Jong and the Bruyne. (De Jong, De Bruyne, 2008; De Bruyne, De Jong 2008; De Jong et al. 2009) The Workplace Game mainly focuses peoples' behaviour within the spaces provided at the main office and "[...] aims to facilitate group discussions on working behaviours [...] but is not directly aimed at office space designers." (De Jong, De Bruyne, 2008, p.3) The second simulation game to appear in the field of workplace design is the game discussed in this paper. Other than the Workplace Game, *Work A Round* aims at identifying multi-located work patterns and helping to better match places and tasks that are not necessarily executed in the main office (comp. Eckert, Luppino 2016). The game further aims at gaining insights on two different levels: "Design in the Large (DIL)" and "Design in the Small (DIS)" (comp. Kriz 2003, Kriz & Hense 2006) and consequently addresses three main groups of stakeholders (comp. Eckert, Luppino 2016):

- » Design in the Large (DIL): The management of a company, by showing the potential in productivity increase when better understanding flexible work,
- » Design in the Large (DIL): the facility management and office planners by identifying the requirements for future office spaces in the context of multi-located work
- » Design in the Small (DIS): the employees, by teaching them new strategies to better match their work tasks and places and make them ambassadors or "change agents" (Kriz 2003, p. 508) in their own work context.

One reason, we invested into the design of a simulation game was its capability to provoke „cooperative learning" (e.g. Kriz, 2008, p.666) amongst different stakeholder groups. Therefore, the game itself offers no individual goals to the single players in order to limit competitiveness between single players and support the communication amongst them as a team. Instead, we have chosen to relate to Habraken's concept of a game's "program" (comp. Habraken, Gross, 1987,1988), which provides common goals of a game in order to provoke negotiation (Habraken, Gross, 1988, p. 144-155), team-based problem solving and cooperative learning (Kriz, 2008, p.666). The *program* also ties better to the real life situation of multi-located work and workplace design, where cross-disciplinary teams work together in order to complete a common task or project. By emphasising the learning aspect, *Work A Round* queues into a genre of simulation games that Hannula et al. (2014) describe as "Knowledge Co-Creation Games".

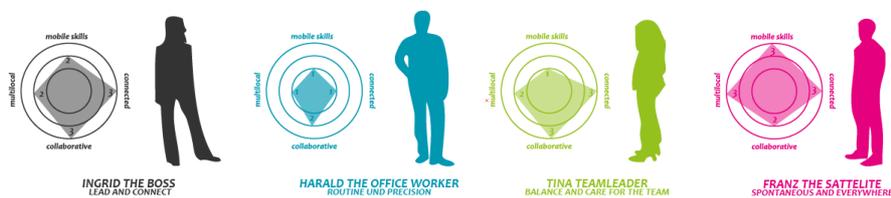
Another reason that supported our decision to design a simulation game was the fact that we were looking for ways to encourage our stakeholders to discuss and negotiate different scenarios regardless of their professional or hierarchical background. The empowering of stakeholders is one of four purposes design games should provide according to Vaajakallio and Mattelmäki (2014, p.64) "[They do so by being] hands-on tools for establishing a common language between designers and users and to involve users in discussions on existing and future alternatives. " (Vaajakallio, Mattelmäki 2014, p. 64). The hands-on experience of a board game and the fact that stakeholders would physically sit and discuss at the same table became another reason that in our eyes would empower both, our stakeholders and the entire design process as well.

## Exploring and debriefing

Physically, *Work A Round* consists of three basic elements: the mainboard representing the network of locations (Fig.1), several sets of cards representing work tasks and events and four pawns representing the four players. The players or groups of players themselves are meant to slip into the roles of four personas (*Ingrid the Boss*, *Harald the Office Worker*, *Tina Team Leader*, *Franz the Satellite*) (Fig.2). Each persona comes with a different work profile concerning their tasks, collaborative skills or the ability to work at different locations. While playing the game, the participants' persona deliberately doesn't need to correspond to their role in real life which is meant to "allow participants to switch between roles and by doing so gain new perceptions" (Vaajakallio, Mattelmäki 2014, p. 68).



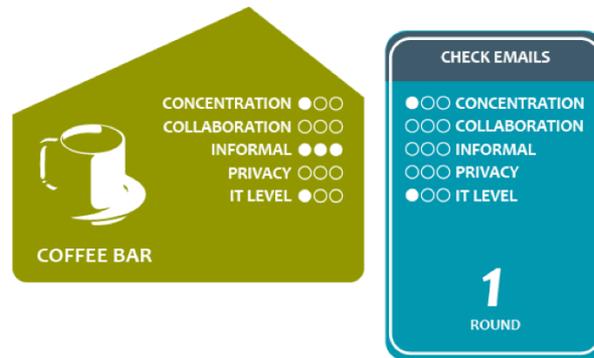
**Figure 1: The game's mainboard**



**Figure 2: The four personas**

As stated above, *Work A Round* doesn't provide any individual goals to the players and is based upon the general program of completing all present tasks together as a group. To achieve the goal there are two general rules that constrain players in their acting: the first one states that each player can change his location once per round and – if possible - complete

just one task at this location. The second rule assigns specific profiles to both, tasks and locations. Visualised by a small scale of three dots (Fig.3) players recognise whether a task matches a location or not.



**Figure 3: locations and task cards matching together**

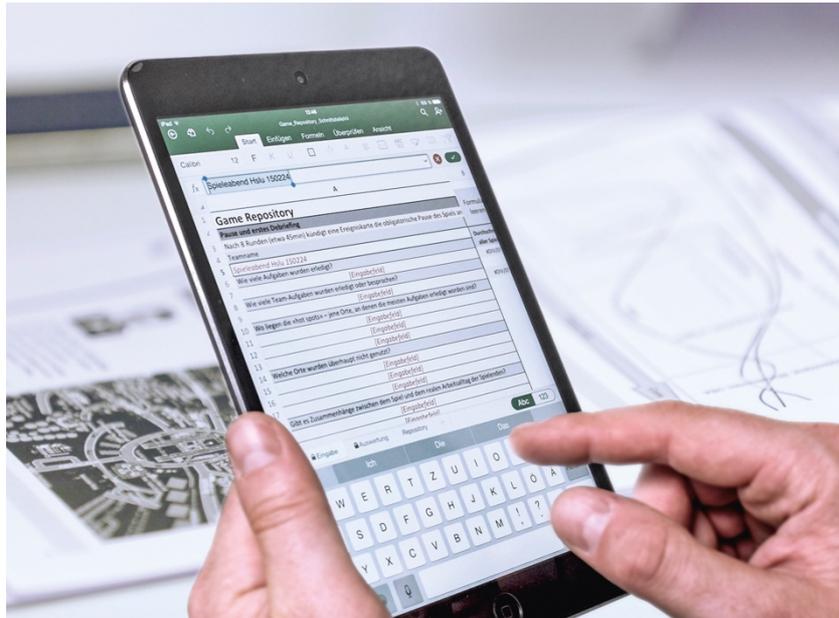
A common element in simulation games is the presence of a facilitator. Other than the players he holds a twofold mandate as “shaper” and “coach” (comp. Kriz 2008; Wagemann 1999) of the game. By introducing, observing and moderating each round of the game “[His role oscillates] between running the game and letting the participants have control“ (Johansson, M. & Linde, P. ; 2005; p. 14). Furthermore, the facilitator is responsible for the debriefing process held twice during the game. The first debriefing takes place after 8 rounds (approx. 45min) and the second one at the end of the game. Both debriefings consist in a series of questions the players are asked by the facilitator to prescind their experiences and strategies from the game and formulate “Abstract Concepts” (comp. Kolb 1984, p. 21 and Kriz & Nöbauer 2002, p.2) which could be transferred to their real work-life. Again, the debriefing procedure relates to the concept of “cooperative learning” (comp. Kolb & Kolb 2009; Kriz, 2008, p.666) and “Knowledge Co-Creation Games” (Hannula et al. 2014).

## Discussion – using Simulation Games as a research tool?

First experiences with the simulation game *Work A Round* have shown that the expected outcomes for the participants in terms of engagement, empowering and learning can be obtained by the means of a simulation game. In 2014 and 2015 the game has been tested by 11 different groups with a total of 50 participants. Participants had different backgrounds in workplace design, architectural planning, furniture design, psychology, interior architecture, telecommunication, IT solutions or transportation. However, the game hasn’t been introduced into the commercial world yet. During the workshops, participants tuned in very quickly into their roles and after a few rounds a vibrant dialogue would emerge between players. The presence of a facilitator and the debriefing process further clearly supported the cooperative learning process. Teams started to formulate work strategies and discuss the consequences for the future design of their office facilities. Still, after the game’s introduction in 2014 there is far too little empirical data to state, whether a simulation game contributes to a better design process. First experiences will be made in our future workshops coming up in 2016. However, the feedback from our participants and partners in

the planning and consulting business confirmed the game's potential as a common *stage* for discussions during the planning process and as a new methodological approach in both, the planning and consultancy process for workplace environments.

Another question remains, how well the board game might be applied as a real research tool. The basic idea of using the game as a research method, has been the recording and reviewing of the game's events as also described by Habraken and Gross (1988, p.155). *Recording* the game would provide comparability between different game workshops and groups of participants and gather data that would allow long term observations on how stakeholders behave in a playful context provided by a simulation game.



**Figure 4: Recording the game with the Game Repository**

Similar to Habraken and Gross (1988, p.155), who have been searching for ways of capturing their games' single moves, we also tried to provide a way the facilitator might capture the debriefing process and the game results as well. Whereas Habraken and Gross (1988, p.156) finally decided on a written notation of their games they called "Writing Form" or "WF", we tried to realise a computer supported form of capturing the game (something Habraken and Gross (1988) have been thinking about too). Together with the board game, an Excel sheet and SharePoint platform have been set up. These two tools allow the facilitator to capture the debriefing process on a tablet PC and feed its results into a central database (Fig. 4). The sheet contains the number and background of the participants, the tasks accomplished until the first debriefing (after 8 rounds), the number of team-tasks accomplished, the locations that have been used and locations that have not been used by the players. During the debriefing all answers and strategies are briefly marked down into the sheet. At the final stage of the game this procedure is repeated and completed by a picture of the final stage represented on the mainboard. This way each record may be used as a benchmark to assess future groups of players.

Up to now, this is a first attempt to gather enough data for research purposes. Our expectations in terms of using the game as a research tool is to get insights into multi-located work strategies established by different groups of players from different companies

or by teams within the same company. Further it might allow observations on people's changing strategies before and after the occupation of a new workplace. All these expectations are yet to be confirmed and future application of the game will show how well it might prove itself compared to classical qualitative methods such as surveys or interviews.

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