GAMES IN URBAN PLANNING
A comparative study

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SERIOUS GAMES

- Games can enable players to make decisions in an experimental, game-based environment (Sanoff).

- They can show abstract planning processes in a playful way.

- **Clark C. Abt** defines serious games as: “games which achieve an explicit, cautious, educational function and whose major feature is not just entertainment. That does not mean games should not be enjoyable; they can be used to impart knowledge in a playful way” (Abt 1972, page 5 ff.).
RESEARCH QUESTION

Are there actually games which can entertain people and simultaneously animate them to participate in real planning processes as well as facilitate learning about the current process in a playful way?
METHODOLOGY

- The game industry is multifaceted → focus on cities is very popular
- The games industry offers a mass on commercial games which focus on urban planning aspects
- New games will be evolved soon → comparative study is a kind of snap-shot
- We distinguished three categories of games:
  
  non-digital/traditional
  digital
  pervasive games
DIFFERENT GROUPS OF GAMES FOCUSED ON CITIES

- Non-digital/traditional games: board- and card games
  - Broken Cities, CLUG, Ginkgopolis, Masterplan, Neue Heimat, Pop-up Pest, Stadtspieler and The Harbour Game

Figure 1: Stadtspieler event with TRENDBÜRO Hamburg 2011 and the game board. www.stadtspieler.com
DIFFERENT GROUPS OF GAMES FOCUSED ON CITIES

- Digital games: PC-games
- Anno, City One, Civilisation, Community PlanIt, Green Sight City, Minecraft/Block by block, Plasticity, Securing Sydney’s Urban Planning, SimCity and Surfing Global Change
DIFFERENT GROUPS OF GAMES FOCUSED ON CITIES

- Pervasive games: games in urban environment
- Mogi, PacManhattan and REXplorer

Figure 3: REXplorer map and technological equipment. Ballagas; Walz 2007, page 367.
COMPARATIVE STUDY

Criteria for comparison:

- Participation
- Interaction
- Realistic visualization
- Learning effect
- Knowledge transfer
RESULTS OF THE COMPARISON – BOARD- AND CARD GAMES

![Diagram showing comparison of participation, interaction, realistic visualization, learning effect, and knowledge transfer for different games such as The Harbour Game, Stadtspieler, Pop-up Pest, Neue Heimat, Masterplan, Ginkgopolis, CLUG, and Broken Cities.]
RESULTS OF THE COMPARISON
PC-GAMES

- Participation
- Interaction
- Realistic visualization
- Learning effect
- Knowledge Transfer

Surfing Global Change
SimCity
Securing Sydney’s up
Plasticity
Block by block
Minecraft
Green Sight City
Community PlanIt
Civilisation
City One
Anno
RESULTS OF THE COMPARISON GAMES IN URBAN ENVIRONMENT
DISCUSSION

- Match our research question:
  Are there actually games which can entertain people and simultaneously animate them to participate in real planning processes as well as facilitate learning about the current process in a playful way?

  Block by block
  Community PlanIt
  Pop-up Pest
  Stadtspieler
  The Harbour Game
DISCUSSION

- **Block by block**: used for young residents of problematical areas to take part in planning processes.

- **Community PlanIt**: online game platform, was produced as a local participation game.

- **Pop-up Pest**: educational game especially made for children. According to their wishes, they could design the city and make fictive urban plans.

- **Stadtspieler**: used in civic participation processes. The purpose of the game is to create a high quality living environment.

- **The Harbour Game**: a mixed reality game, it aims to promote the development of the harbor in Aarhus.
## DISCUSSION

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<tr>
<th>Positive Aspects</th>
<th>Critiques</th>
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<td>Five games were used in urban planning processes</td>
<td>Participation (7) and realistic visualization (11) is low → Less than half of all games</td>
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<td>All games are designed for interactions and possible learning effects are high</td>
<td>Especially games in urban environment (group 3) do not offer more than just entertainment → 3 games</td>
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<td>Minecraft was not developed for urban planning processes</td>
<td>There are many games with urban planning topics but they are not sufficiently used for integrating people in real-world planning processes</td>
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<td>→ Block by block is used for urban planning</td>
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<td>→ Implementation in practice</td>
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<td>Only eight games enable pure entertainment</td>
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CONCLUSIONS

- Games can support a playful participation and interaction
- GeoGames Lab [www.geogameslab.de](http://www.geogameslab.de)
- AGILE Workshop in Spain
- Collaboration with International Institute of Information Technology Hyderabad, India
THANK YOU!

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Computer-based Methods in Urban and Regional Planning

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