Learning to Understand Geodesign by Playing Geogames

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A simple idea

indoor / motion

outdoor / locomotion
Beyond Geocaching, beyond GeoTicTacToe

Multicache

Geogame
Geogames in Education

- University of Bamberg
  - Research group on Computing in the Cultural Sciences
  - designs and studies Geogames since 2004
- Research focus
  - interaction of game mechanics and learning
  - Geography and biology education
Geodesign reading game

Reading historical and contemporary urban designs
## Geogames and Geodesign

<table>
<thead>
<tr>
<th>Geogames</th>
<th>Steinitz et al. 2003</th>
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</thead>
<tbody>
<tr>
<td><strong>Exploration games</strong></td>
<td><strong>How should the state of the landscape be described ...?</strong></td>
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<tr>
<td>Learning to use a spatial design</td>
<td>How does the landscape operate?</td>
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<tr>
<td>How do I move from A to B?</td>
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<td>What is the best place for activity X?</td>
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<td><strong>Evaluation games</strong></td>
<td><strong>Is the current landscape working well?</strong></td>
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<tr>
<td>Learning to evaluate a design</td>
<td>How might the landscape be altered ...?</td>
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<tr>
<td>How do I feel about place A?</td>
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<td>What would I need there?</td>
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</table>
Lessons learned (1): Spatial choices

- **Motivation**
  - Positively affected by perceived choice
  - Negatively affected by pressure/tension

- **Mobility**
  - Search pattern vs. navigation pattern
  - Risk of taking wrong decisions vs. game fun

Spatial choices in an educational Geogame. Kremer, Schlieder, Feulner, Ohl (2013)
Lessons learned (2): Managing complexity

- **Performative level**: x 1 h
  - Teachers + Learners
  - Staging the game

- **Narrative level**: x 10 h
  - Teachers
  - Game narrative, ..., geocontent

- **Ludic level**: x 100 h
  - Bamberg Geogames Team
  - Rules of the game, ..., GI technologies
Architecture

- Geogame Engine
  - Game Server (Java)
  - Game Client (Android)
- GI technology
  - ESRI basemap
  - ArcGIS online
- Next Steps
  - Game data editor
  - more games: data collection, simulation game, GeoDesign
We need assistance

- **We offer**
  - Geogame Android App
  - Hosting game sessions
  - Implementation of new game ideas
  - ...

- **Contact**
  - http://geogames-team.org/
  - geogames@uni-bamberg.de
Play Geogames here at the EdUC!