Game Design, seriously?

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BACKGROUND
Who I am

• Professor
  Gamedesign – Focus Computer Science
  Mediadesign Hochschule, Düsseldorf
  http://www.mediadesign.de/

• Researcher
  Mobile Serious Games
  Open University of the Netherlands, Heerlen
  http://www.ou.nl/

• Entrepreneur
  Mobile and Web-Solutions
  Humance AG, Cologne
  http://www.humance.de/
What I do - Teaching

- Game Engine Architectures
- AI for games
- Game Physics
- Game Development / Game Programming
- Game Research
  - Technological developments
  - Serious game aspects
  - Augmented Reality
What I do - Research

• Mobile Serious Games
  – ARLearn open source toolkit
• Wearable technologies
• Multi-user, role-based serious games
  – Game-based decision training
• Supported PhD theses
  – Game Design Patterns (S. Kelle)
  – Mobile Serious Games (B. Schmitz)
  – Serious Games and Augmented Reality (A. Antonaci)
SERIOUS GAMES
Have you ever watched little children learning? Or playing?
Discovered any difference?

“Fun is the original educational technology.”
– Chris Crawford
Education

- Industrialized
- Built for Scalability
- Suited for the creation of „comparable” people

How can education be playful, individual and joyful?

• When students are grouped by age, not by abilities or interests?
• When all students receive the same learning materials?
How to unite gaming and learning again?

How to place learning and gaming in context?
Is it possible to create a 3D learning game with freely available technologies / contents at low modelling cost?

Gamification for LogiAssist – The TEGA Project

A learning game that encourages to drive economic and safe.

SALOMO
Decision training for disruption handling in logistics

Klemke, R., Kurapati, S., & Kolfschoten, G. (2013). Transferring an educational board game to a multi-user mobile learning game to increase shared situational awareness. Presentation at the 3rd Irish Symposium on Game Based Learning, Dublin, Ireland.
Mobile learning game based on team processes simulate disruption situations

From board game to multi-user mobile learning game

Klemke, R., Kurapati, S., & Kolfschoten, G. (2013). Transferring an educational board game to a multi-user mobile learning game to increase shared situational awareness. Presentation at the 3rd Irish Symposium on Game Based Learning, Dublin, Ireland.
EmUrgency: Mobile Game for Basic Life Support Training

Cardiac arrest one of the main causes of death
Only 20% of affected people survive

Chances for survival …

… are increased with the factor 3 through immediate cardiac massage

EmUrgency: Mobile Game for Basic Life Support Training

But: bystanders …
… often don’t know what to do or fear to do the wrong things

EmUrgency: Mobile Multi-user Game for Basic Life Support

Learn what to do, where to find resources, how to organise help

ARLearn: Platform for mobile serious games

- Sensor enabled (location, camera, QR)
- Multi-user, multi-role game play
- Clients for Android and iOS
- Open Source
- [http://ou.nl/arlearn](http://ou.nl/arlearn)
- [https://code.google.com/p/arlearn/](https://code.google.com/p/arlearn/)


**New Project launch in serious games:**
RAGE – Realising an applied Game Eco-system
Towards reusable, advanced serious gaming technologies
Contact: Wim.Westera@ou.nl
GAME DESIGN
<table>
<thead>
<tr>
<th>Term</th>
<th>Course Content</th>
</tr>
</thead>
<tbody>
<tr>
<td>1. Term</td>
<td>Game Design</td>
</tr>
<tr>
<td>2. Term</td>
<td>Game Development/ Art 2D</td>
</tr>
<tr>
<td>3. Term</td>
<td>Design: classical Artwork</td>
</tr>
<tr>
<td></td>
<td>Programming: Softwaretechnology</td>
</tr>
<tr>
<td>4. Term</td>
<td>Level Design, Game Design, Sound, Video</td>
</tr>
<tr>
<td>5. Term</td>
<td>Design: digital Artwork</td>
</tr>
<tr>
<td></td>
<td>Programming: Game Engines</td>
</tr>
<tr>
<td>6. Term</td>
<td>Practical Term (Internship)</td>
</tr>
<tr>
<td>7. Term</td>
<td>Bachelor Thesis</td>
</tr>
<tr>
<td></td>
<td>Interdisciplinary Aspects &amp; Research</td>
</tr>
</tbody>
</table>
HIGHLIGHTS
Highlights

- Theory and History of computer games
- Game Theory and its meaning for game design
Highlights

- From Vision Statement to Game Design Document
- Scenario and Storyboard
- Conceptualization and Documentation
- Balancing
Highlights

- Dramaturgy in traditional and interactive media
- Interactive Storytelling
- Narrative Gameplay

Image: Nathanael Coyne: https://www.flickr.com/photos/purecaffeine/15223646819/
Highlights

- Level design
- Game rules
- Player guidance
Highlights

• Media didactics and design

• Ethical and social implications

• Gamification

http://www.thefuntheory.com/piano-staircase

SAGE presentation, R. Klemke

"Addiction"

• Some people spend more time in virtual worlds than they do in the real world.
  - People have died at the keyboard from playing 2+ days continuously without sleep.
• Thailand has a 10pm-6am curfew on them.
• China has a 3 hour per day limit.
• One player murdered his friend for selling his character’s sword.
• They don’t do this for normal games.
• Why do people do it for MMORPGs?
Art and Animation

- Concept Art
- 2D and 3D Design
- Modelling and Animation

Image: David Longo: https://www.flickr.com/photos/greyistthecolor/5217155868/
Video and Sound Design

• Storyboard and Comic
• Trailers
• Machinima
• Video and camera technology
Programming

- Scripted Animation
- Data integration
- Algorithms
- Interfaces
- Artificial Intelligence
- Graphics Programming
- 2D and 3D Game-Engines

Producing

- Rights and Licenses
- Agile and classical project management
- Corporate management
- Localisation
Research and Technology

- Game-Engines
- Sound-Engines
- Artificial Intelligence

- Motion Capturing
- Augmented Reality, Pervasive Gaming
- etc.

Image: pierre.lag: https://www.flickr.com/photos/pierrelag/6271871649/
CHALLENGES:
GAME DESIGN FOR SERIOUS GAMES
LEARNING: the ultimate game where you never run out of levels
Challenge 1: Target groups

• Game Designers

• Enthusiasts about Games
• Often game players
• Want to develop professional games
• Want to be part of game development companies
• Specialized as either game designers, game artists, game developers

• Serious Game Designers

• Often non-gamers
• Educational background
• Want to create educational materials
• Want a problem to be solved using a game
• Specialized in educational science, psychology, pedagogy and related fields
Challenge 1: Target groups

How to increase the overlap?
How to attract more game designers into serious games?
How to attract more serious game designers into core game design topics?

Game Designers

Internships, Bachelor theses, Research topics, Guest lectures

Serious Game Designers

???
Challenge 2: Interdisciplinarity

• Game Design itself already highly interdisciplinary
  – Art
  – Design
  – Communication Science
  – Computer Science
  – Storytelling
  – Project management
  – Business orientation

• Serious Game Design adds more complexity
  – Pedagogy
  – Learning Theories
  – Learning Technologies and Standards
  – Learning Design
Challenge 2: Interdisciplinarity

How to select the relevant topics from each field?
How to avoid the problem of too many shallow covered fields?
Which topics to deepen? Which to skip?

Which game design aspects are essential for serious games?
Which educational aspects need to be included?
Challenge 3: Markets and careers

• Game Designers address the biggest entertainment markets world wide
  – All age groups play games
  – Men and women play games (though often different ones)
  – Triple-A production budgets exceed Hollywood blockbuster budgets
• Serious Game productions usually cope with small educational budgets
  – Low budget for proper art works
  – Low budget software solutions
  – Many stakeholders involved complicate projects
Challenge 3: Markets and careers

How to plan careers for students in the serious game field (also outside research)?
How big is the target group to address?
How big is the market need for serious game designers?

Entertainment Games

Serious Games

How to learn from professional entertainment productions?
How to move professional developers into serious topics?