Multiplayer Adventures for Collaborative Learning With Serious Games

6th European Conference on Games Based Learning

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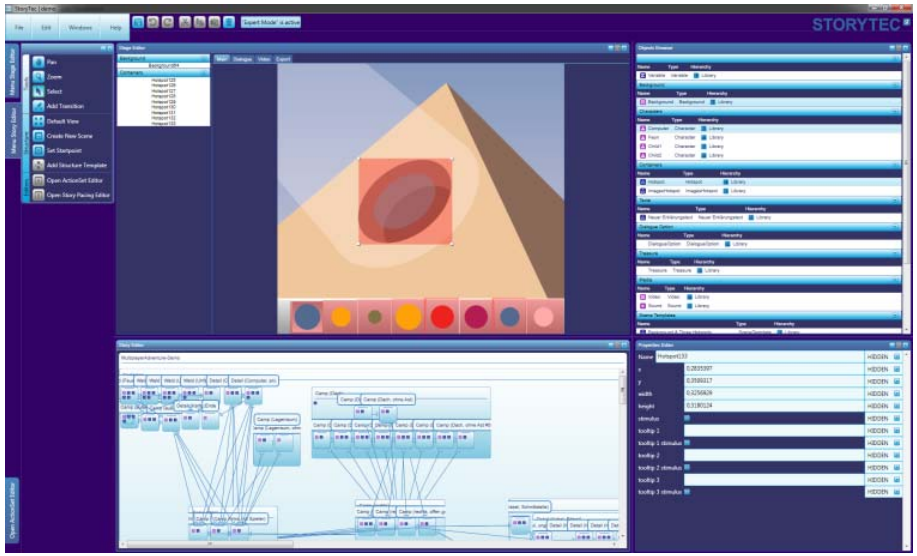

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Motivation

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(Serious) Adventure Games [1]

- i.e. Point-and-Click Adventures
- Puzzles → learning content
- Slower pace → consolidation
- Scene-based → modular

(Serious) Multiplayer Games [2]

- Collaborative Learning
- Social Skills

Multiplayer Adventure Games

- Combine these advantages?
- But how to create collaborative puzzles?

Geograficus (2005)

Myst Online: Uru Live (2007)

Outline

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Motivation

Related Work

Concept

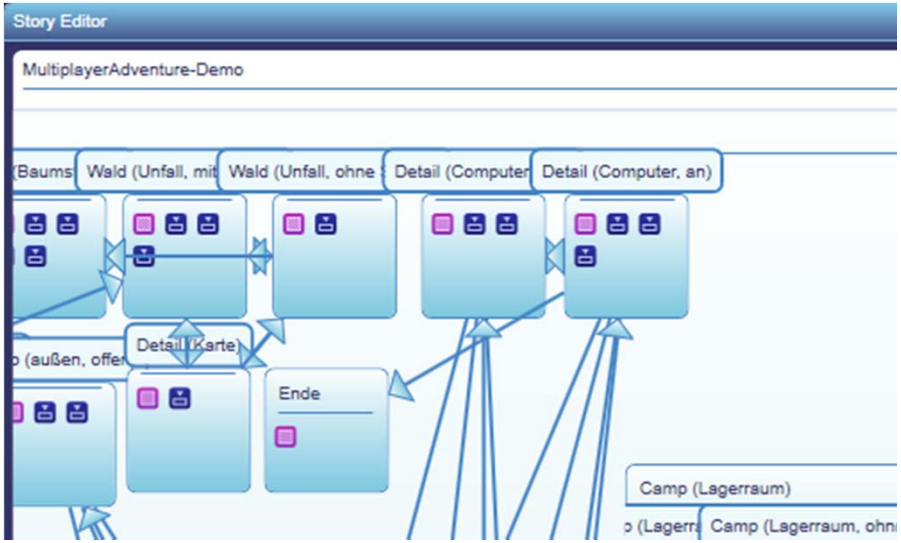
- Puzzle Design
- Communication / Adaptivity

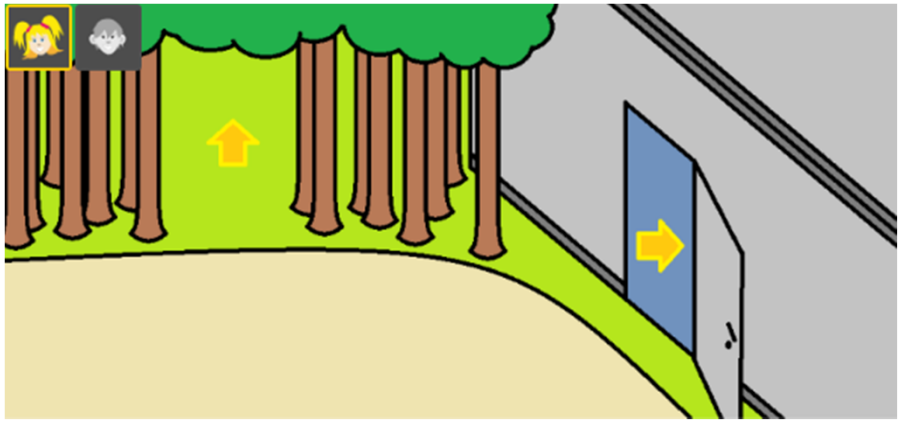
Implementation

- Authoring
- Game

Evaluation

Conclusion / Future Work





Related Work

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(Serious) Games

- Facilitate learning [3]

Adventure Games

- “Good” puzzles [4]

Multiplayer Games

- Design for collaboration [5]
- Allow collaborative learning [2]

Collaborative Puzzles

- Multiplayer puzzles in general [6]
- Game: “eScape” [7]

eScape (2005)

Concept – Puzzle Design

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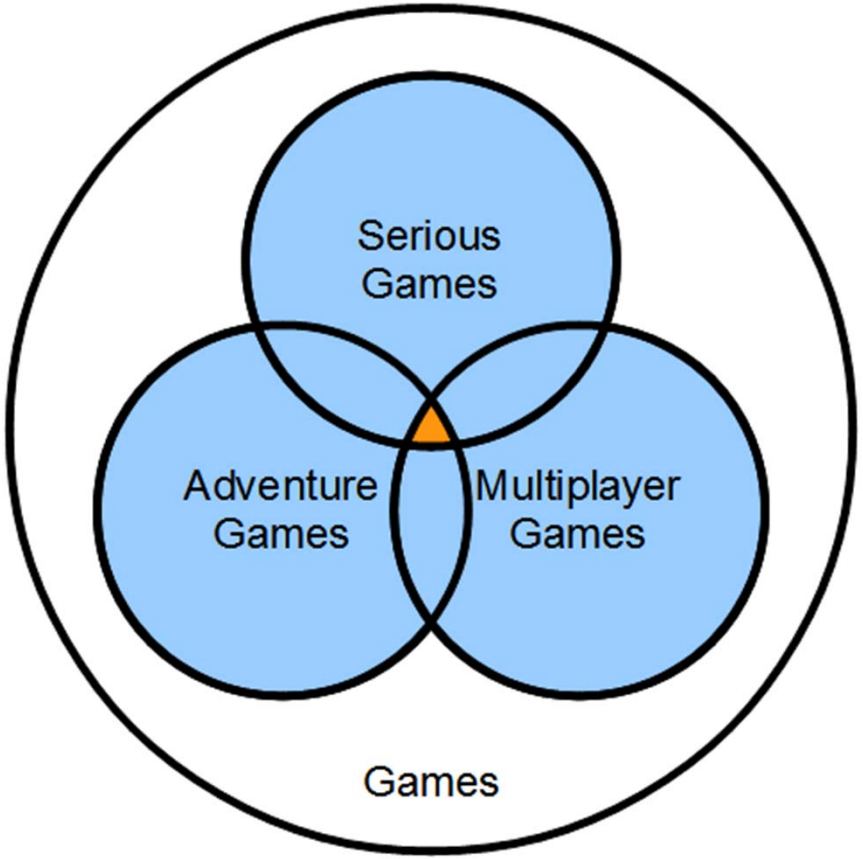
Combined requirements

- Realistic and logical
- Good reasons for collaboration
- Entertaining actions
- Equal contribution by all players
- Require coordination to promote communication
- Learning content integrated in an organic way



Concept – Puzzle Design (cont‘d)

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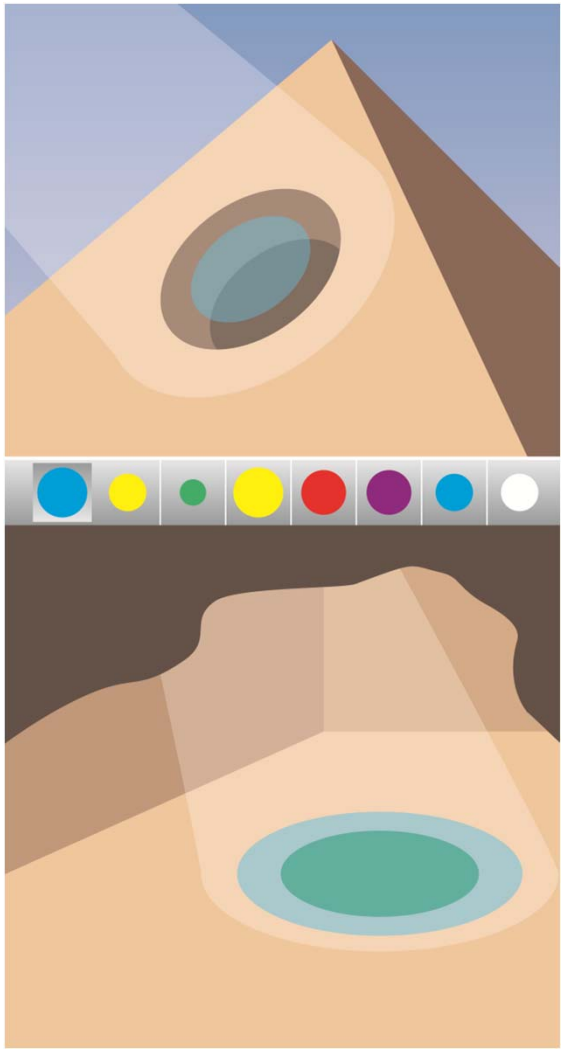
Basic principle: Player separation

- Information-based
- Skill-based
- Location-based
- Time-travel

Control vs. freedom

- Fixed
- Free



Concept – Communication / Adaptivity

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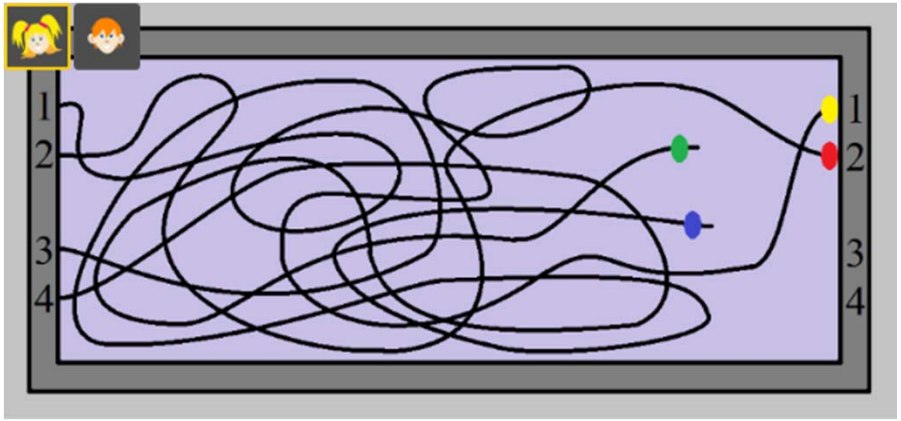
Explicit communication [8]

- Solve (complex) puzzles
- Discussion for learning
- Can be slow
- Use (semi-structured) text [9]
- Easily describable objects



Implicit communication [8]

- Make player actions visible

Adaptivity

- Respect all players
- Voting for choices
- Allow different player numbers

Implementation – Authoring

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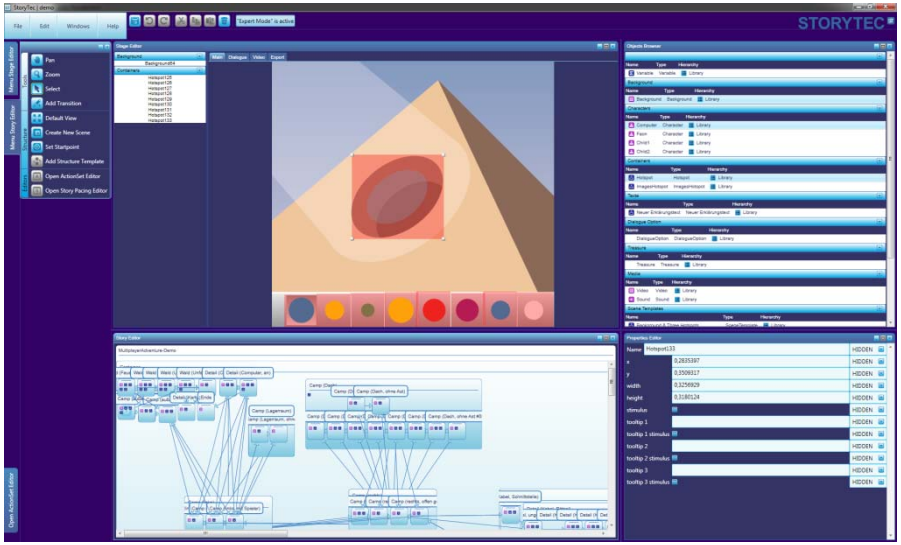
Basis: StoryTec [10]

- Easy to use
- (Re-)created commercial Adventure [11]
- Singleplayer only

Extensions - Authoring

- Number of players
- Scripts reacting differently
- (In)dependent movement
- Audibility of sounds
- Multiple player models



Implementation – Game

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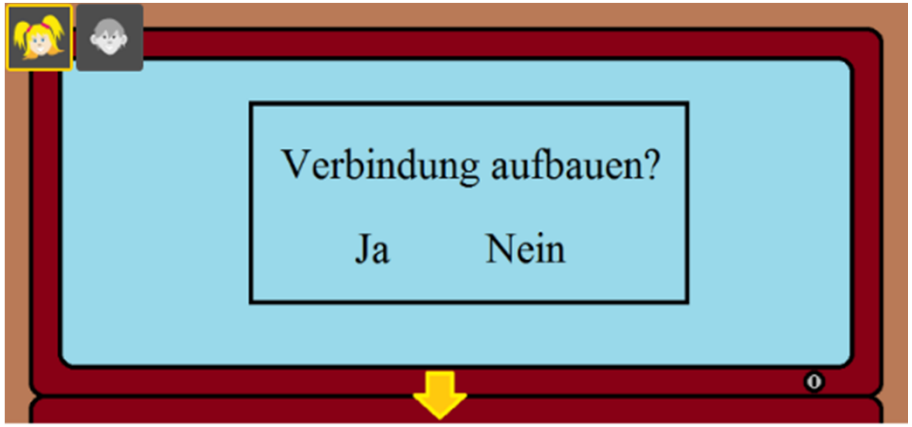
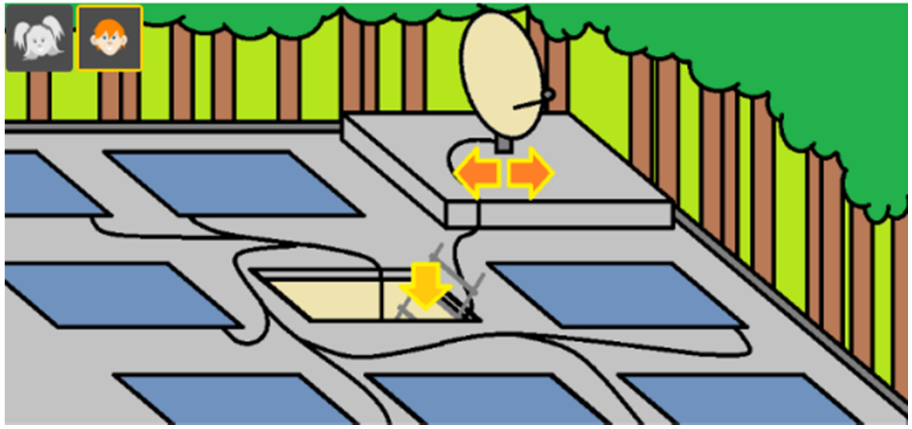
Extensions - Player

- Textchat
- Simple avatars

Prototypical game

- Focus on puzzle design
- Skill-based separation
- Fixed location-based separation
- Free location-based separation





Evaluation

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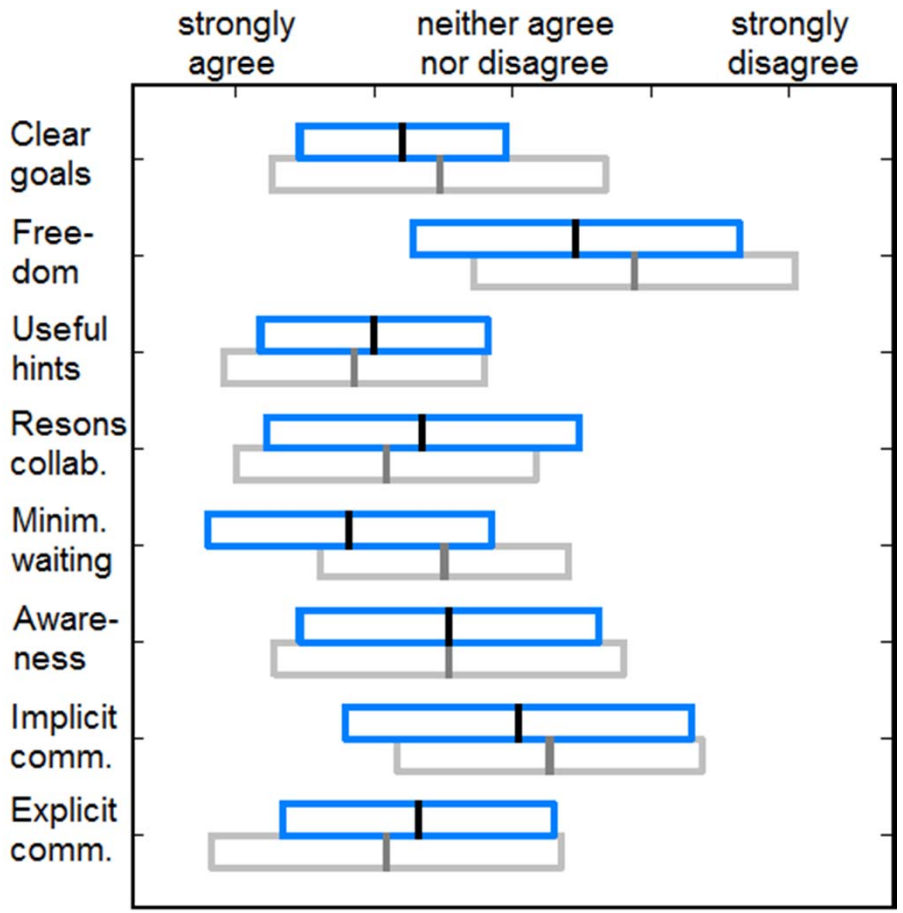
Game

- Survey based on requirements
- Likert-Scale, pos / neg statements
- 24 players (LAN, Internet)
- Fulfilled most requirements
- Problems with implicit comm.
- Not much freedom
- Internet took more time

Authoring

- Existing usability survey [12]
- 5 experts
- Only minor problem detected



Conclusion / Future Work

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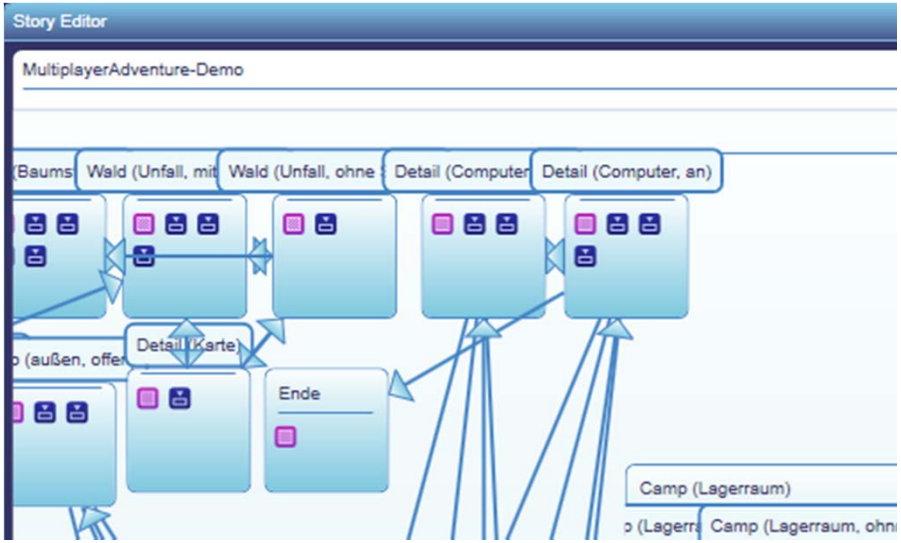
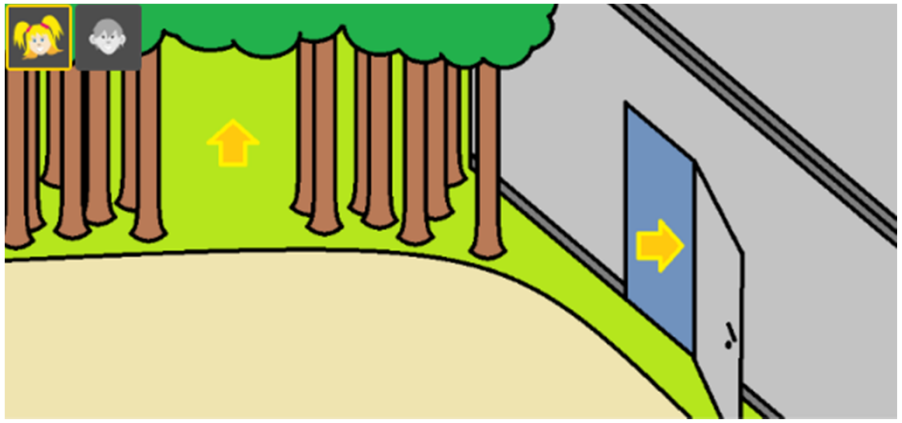
Conclusion

- Basic concept for Multiplayer Adventures
- Extended Authoring Tool
- Applied concept to real puzzles
- Created well received prototype
- Idea of Multiplayer Adventures is promising

Future Work

- Further extensions of the authoring environment
- Extended prototype including real learning content
- More extensive evaluation





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Questions & Contact

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