Developing Educational Games

Serious Games Seminar
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Overview

1. Introduction
2. Working with educators
3. Design issues
4. Differences to retail games
5. Summary
6. Example
“Learning always takes place in well-constructed games.”

James Paul Gee
Introduction

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Considerations

- different learning styles
- undeveloped area
- public distrust in educational games
- developers have to understand the medium
Acceptance

Significant for acceptance

- assessment of learning
- cost per student
- potential uses
Working with educators

- educators
  - provide ideas for new techniques and applications
  - contribute their expertise

- game developers can help teachers
  - to evolve and improve their teaching methods
  - to bring benefits of automation and information technology into the classroom
Working with educators

- focus on
  - learning goals
  - how to achieve them
  - evaluation

- requires good communication between developers and educators!
Concerns of teachers

- "Games will keep us [teachers] too busy!"
- "Games are a threat to our jobs!"
- "Games are teaching immoral behavior!"
- "Games can teach the wrong lessons!"
- "Will they work on our school computers?"
- "What will other teachers and parents think?"
- "I don't know how to use it!"
- "It means more work for us!"
- ...

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Reasons for concerns

- general distrust towards mass media
- unwillingness to experiment
- biased press
- misapprehensions
What do teachers demand?

- little work to adapt for classes
- „simple“ games
- maintain accuracy
- support homework
- assurance of security
Design issues

- different criteria from C. Aldrich and C. Abt
  *(in detail in my report)*

- roughly summarized:
  - unrestricted options
  - clear consequences
  - repeatability
  - motivation
  - realism
Motivation

Combining fun and learning

• game should promote
  – fun
  – higher-order thinking skills (i.e. team-work)

• serious games can
  – stimulate interest and excitement -> motivate!
• accurate simulation
  – assumptions must be made
  – careful determination of rules
  – otherwise: wrong rules and dependencies could be taught
  – sources for wrong assumptions: cultural taboos, blind spots and technical restrictions
Differences to retail games

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- target market
  - less modern equipment
  - variety of hardware
- accessibility for non-gamers
- testing and assessment of learning
- working with educators
- integration into education process
Differences to retail games

- avoiding simulation shortcuts
  - randomness
  - time compression
  - process simplification
  - headache removal
  - perfect communication
Summary

- educational games are still games
  - similar development process
  - essential factor: pedagogy

- collaboration with educators important

- various criteria for a good educational game

- differences to retail games
Example for educational game

Nintendo: Brain Age

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Nintendo: Brain Age

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http://nintendods.gaming-universe.de/screens/boxart_eur_brain-training.jpg
References

Book


Links

- http://www.gamasutra.com/features/20060322/dillon_01.html
- ... (look in the report)

Pictures

That isn't all – but I don't have more time ;)

For further information just ask me or / and read my report :)

Thank you for your attention!
Do you have any questions?