Agenda

Ken Perlin  NYU, Games 4 Learning Institute
Chris Franz  Microsoft Learning
Ross Smith  Windows Security
Jennifer Michelstein  Office Labs
Computer Games and Learning: Best Practices Using Games to Teach in Academia and at Microsoft

Ken Perlin, Professor
New York University
• 40+ Field interviews
• Transcriptions and video analysis to cull insights
• Compiling best practices

Who are the experts?
Questions:

- What design patterns/examples of great practices to encourage learning have come up for you when you learned about this project, based upon your experiences?
- Do you have ideas about how they can best be tested/validated?
- Do you use player personas/play styles in your design work? If so, how?
- What are some big no-no’s that we should definitely avoid?
- Are there skills that you think games teach really well? Which ones and why?
Questions

What do you see as the role of the teacher in combination with a game for learning?

How to reproduce what teachers do in educating, in games (e.g. providing timely feedback, taking someone's thinking to the next level)? How so?

What about social setting?

How do social dynamics change games and learning if at all?

What about networked social situations (e.g. MMOs)?

Anything else we should have asked that we didn’t?
“Boring games! Avoid boring games. I tell you I think you should avoid sticking to the tried and true. A lot of people will tell you the exact opposite, they'll say there are amazing game mechanics out there just use them and map them with important content and that's going to be great. I'm not a believer in that. I actually believe that you're going to have to discover new mechanics or at least modify existing mechanics if you want to express new ideas. I will just caution you not to depend too heavily on the tried and true mechanics.”
Interviews with the Experts

Carrie Heeter
Researcher and professor, Michigan State University

Cornelia Brunner
Education researcher, Center for Children and Technology

Eric Zimmerman
Game designer and researcher

Heather Kelley
Game Designer and educator, Champlain College and Kokoromi

Jules Evans
Young World of Warcraft player

Jackson Greenspan
Young World of Warcraft player

Jesse Schell
CEO of Schell Games and professor, CMU ETC program

Jesse Vigil
Independent Games Developer, Psychic Bunny

Jill Denner
Senior research assoc., Education Training and Research

Jim Diamond
Researcher, Center for Children and Technology

Jose Zegel
Professor, DePaul University

Norah Larscheid
High School art teacher

Rose Flanagan
Solitaire Player

Zack Aikman
Independent Games Fest 2008 Best Student Game winner

MARY FLANAGAN, DARTMOUTH

Alex Porechnov
Independent developer

Annika Waern
Researcher and game developer, Swedish Institute of C.S.

Bob Settles
Game developer, Microsoft Game Studios

Drew Davidson
Director, CMU Entertainment Technology Center (ETC)

Eliana Medina
Games and education researcher, University of Washington

Ian Schreiber
Game designer

Jane McGonigal
"�." Games and education researcher and designer

Jeremey Tate
Music teacher and playtester, Microsoft Game Studios

KATHERINE ISBISTER, NYU POLY

Tracy Fullerton
Professor, USC Interactive Entertainment Program

Squirrel Eiserloh
Games and education researcher and designer

Steve Meretzky
Game designer

Jane McGonigal
"�." Games and education researcher and designer

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Game designer

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Tracy Fullerton
Professor, USC Interactive Entertainment Program

Squirrel Eiserloh
Games and education researcher and designer
Interviews with the Experts

Jim Diamond
Researcher, Center for Children and Technology

Jane McGonigal
ARG Designer and Researcher, Institute for the Future

Annika Waern
Researcher and Game Developer
Swedish Institute of Computer Science

Nick Fortugno
CCO, Rebel Monkey

Dartmouth

Dartmouth

Jane McGonigal
ARG Designer and Researcher, Institute for the Future
Interviews with the Experts

Zack Aikman
Independent Games Festival 2008 Best Student Game winner

Eric Zimmerman
Game designer and researcher

Cornelia Brunner
Researcher, Center for Children and Technology

Jeremy Tate
Music teacher and playtester, Microsoft Game Studios
Interviews with the Experts

Warren Spector
Game Play Observations

I.S. 49 Bertha A Dreyfus
101 Warren St
Staten Island, NY 10304
Richmond County

Urban Assembly Institute of Math and Science
960 Prospect Pl
Brooklyn, NY 11213
Kings County
• **Strong Narratives provide sufficient incentive to solve hard puzzles/problem** (Professor Layton and the Curious Village)
• **Time and resource constraints make games fun and can improve learning** (World of Goo, Trauma Center)
• **FPS do not automatically provide incentives to learn** (Dimenxian M) (Tribalwars)
• **A social component (collaboration, competition) makes games fun/engaging** (Little Big Planet, World of Goo, Tribalwars, Wii Music)
• **Different levels of incentives (e.g., based on player statistics) increase fun and engagement**
• **Kids will engage in rote tasks for small incentives when it leads up to larger incentives later**
• **Scaffolding can be used to make games adaptive to learners’ specific needs** (prior knowledge, abilities, ...)
• **Games can be engaging, even addictive, without being always fun**
• **The stronger the intrinsic motivation of the game content the less extrinsic motivation is required to engage players**
XNA Game Development

2009 Game Development 2\textsuperscript{nd} Place

Dartmouth
Algorithmic Ideas Relating to Scheduling and Resource Allocation in Operating Systems. We’re talking about a game in which students have to schedule tasks in ways that correspond to simple CPU scheduling. DinerDash is a good example of the genre, although it does not illustrate the principles we’d like to teach. If we can get students to understand the differences between different simple scheduling policies we can pre-teach a good deal about how modern computers actually work.

We are also thinking about games through which we can teach students about simple issues in coordination in distributed systems, such as leader election, mutual exclusion, and byzantine agreement. These sound fancy but they can be presented in very simple and compelling ways and give young learners insight into the underpinnings of distributed systems.
Computer Games and Learning: Best Practices Using Games to Teach in Academia and at Microsoft

Chris Franz
SR. UX Lead
Microsoft Learning
Microsoft Learning Introduction

- Provides Training and Certification on Microsoft Products & Technologies
- Offers a variety of ways to learn: Classroom training, e-learning, e-ref, virtual classroom, virtual labs
- Reaches broad set of customers
  - Over a million unique users come to the Learning site per month
  - Over 500K courses are activated and taken every year
  - Over 2000 hours of online training available
  - Content is globally available in multiple languages
- Drives high customer satisfaction
  - eLearning customer satisfaction among the highest in various Microsoft online properties (Typically 5+ points higher than most properties)
  - eLearning drives significant improvement in satisfaction with MS products
Why Games in Learning?

Every month, an estimated 200 million consumers play casual games online, many of whom do not normally regard themselves as gamers, or fans of video games.

- 50% of all Americans and 75% of American heads of household play computer and video games
- Kids aged 8 to 18 spend about 50 minutes per day playing video games
- Average adult male spend 7.6 hours per week playing video games
- Average adult female spends 7.4 hours per week.
Key Challenges with Games in Technical Training

- **Learning Effectiveness**
  - How effective are games in technical training?

- **Blending fun with learning**
  - Fun as a priority
  - At least three game elements in every level

- **Cost, “Time to market” and Scale**
  - Can we create low cost games?
  - Can we create them in cycle times less than 12 weeks?
Our Goals for Learning Games

Adventure/Role Playing Games
- Conceptual grounding
- Gateway into deeper learning
- Quick, fun way to learn in 10 minutes or less

Quiz Games
- Prep for certification
- Learning through trial and error
- Quick, fun way to learn in 10 minutes or less
Where’s MSL Heading with Learning Games?

- Release scheduled for August 2009
- Rich interactive scenario-based games will be ubiquitous in Microsoft training content
- MSL Games will be created by everybody, reviewed by the community and will address serious learning needs
Productivity Games

Ross Smith
Director of Test
Windows Security
Larger Generation than Baby Boomers
Most Tech-Savvy Generation
Most “Gamer” Generation*
  - 50% of All Americans Play Video Games
  - 81% of All Business People 34 and Younger have Played Video Games

Games and Work

- Engagement
- Morale
- Trust
- Productivity
- Innovation
### Employee Skills

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Language Game - Problem Space

- Windows ships in about 100 languages
- Windows has thousands of user interface dialogs
- Windows developers do NOT speak every language

How do we effectively validate the quality of the translation?
“It’s pretty addictive once you start playing so maybe you need a health warning on the homepage!”

- John

“It’s really cool! …a very innovative and fun way to improve loc quality.”

- Dean

“…this adds even more motivation to my passion in contributing to the quality of our products!”

- Tigran
References

42projects
www.42projects.org

Productivity Games Blog
productivitygames.blogspot.com

London Business School case study

Changing the Game
www.changingthegamebook.com/

The Economist
http://www.economist.com/daily/columns/businessview/displayStory.cfm?story_id=11997115
Computer Games and Learning

Best Practices Using Games to Teach-in Academia and at Microsoft
Skill Tracker from Office Labs

Jennifer Michelstein
Program Manager
Office Labs
Grossest oversimplification you’ll hear today
- Office has lots of great features…
- that some people don’t know about

This isn’t a statement you hear about games

What can we learn from games, and apply to productivity software?
Skill Tracker explores:

Can elements of game play, added to Office,
- Motivate people to explore more of the app
- Increase their satisfaction
- Increase their productivity
- Increase their perceived value of the app
- …without being a distraction?
Some elements of game play are off-limits…
- Limiting functionality until earned
- Sabotaging other players
Early Learnings

At Microsoft:
- “Addictive”
- “Wow! I didn’t know I could do that in Word!”
- “I want to know my manager’s score. Who’s winning?”

In external focus groups
- “I don’t want my manager to know my score. I don’t want my job to be replaced by someone with a higher score.”
- “If my score is high enough, I’d want it on my resume.”
- “I’d feel better playing this at work instead of Solitaire.”