Graduate Program: Games Research

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Session 1: Studying games at the intersection of media studies and computer science

Working at the intersection between computer science and media-/cultural studies

- **Game Ontology Project** (discontinued)
- **MIT Game Lab & The Education Arcade** at MIT


Working at the intersection between computer science and media-/cultural studies

- Projects with a regional focus
  - University of Tampere, Youth Spaces and the Alpine Tundra Regions (YOUSAT)

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Working at the intersection between computer science and media-/cultural studies

- Game labs at Georgia Tech
  - Topics like design research, augmented reality and the relationship between AI and interactive storytelling

- Location-based gaming and related middleware
  - S.P.I.E.L.B.A.R
  - Colonia Mysteria
    - Dialogical relationship between technology and content
Serious Games and Gamification/’gameful design’

- Identifying and exploring still understudied aspects
  - (Asynchronous) Multiplayer functionality
  - Relationship between intrinsic and extrinsic motivators
  - Relationship between gameplay mechanics and actual learning results

Identifying niches for topics like serious games in contemporary gaming culture

- Abundance of existing and planned serious games
- Adapting casual games for educational purposes
  - Farmville-type game with actual stock market data
  - Cooking game for health education
Strategic development: Audiovisual aesthetics

• Non-photorealistic rendering in games
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  History and culture of aesthetic strategies being remediated

Strategic development: Procedural Content Creation

• Patterns of pseudo-randomly creating worlds and narrative(s)
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  Patterns of interpreting worlds, characters and stories
  – Ties in e.g. with research on transmedia storytelling
  – Changing discourses on authorship
EXAMPLE:
A data-analytical approach to games research

- Find weak spots in a game’s design (Chapter 7; Thompson, 2007; Kim et al., 2008; Drachen and Canessa, 2009; Gagne et al., 2012)
- Figure out how to convert non-paying users to paying users (Chapter 4; King and Chen, 2009)
- Discover geographical patterns in our player community
- Figure out how players spend their time when playing (Chapter 18 and 19; DelRe, 2007; Moore et al., 2011; Drachen et al., 2012)
- Discover how players spend their time (Chapter 14; Drachen and Canessa, 2009)
- Predict when they will stop playing (Mahmood et al., 2010; Baeckhage et al., 2012)
- Predict what they will do while playing (Wohrer and Matan, 2009)
- Which assets that are not getting used (Chapter 14)
- Develop better AI-controlled opponents or make games that adapt to the player (Charles and Black, 2004; Thrace et al., 2007; Moors and Gärner, 2006; Pedersen, 2010; Yamakakas and Hallam, 2009)
- Explore and use of social grouping (Thrace and Baeckhage, 2010)
- and much, much more.


- Data mining and data visualization
- EX: Economic behavior in MMOGs
  - Existing applications
- Understanding player behaviour through sensible metrics and theories of media use
  - Most metrics operate on very basic models of human behavior and interpretation

Formalizing conceptual models developed in media-/cultural studies

- Design patterns as a conceptual connector
  - Used both in computer science, design theory (architecture) and the ‘humanities’
  - Partially formalized (to different degrees)
Studying patterns in the socio-cultural adoption of new technologies

- E.g. playful appropriation
- Google Glass
- Google Earth
- Photosynth
  - Angels and Demons advergame

Software studies analysis of game technologies

- Independent game tools like Twine, RPG Maker
- Affordances
- Emergent perceptions and (collaborative) forms of use
  - Tools communities
- ANT
Games as a means of fostering algorithmic literacy

- Algorithmic literacy as an economic and cultural requirement
- What should algorithmic literacy comprise and how can it be promoted?
- Google qCraft (Google Quantum A.I. Lab)

Prototyping as a research heuristic – Analytical Game Design

- Conceptually related e.g. to the Experimental Game Lab at Georgia Tech
- How does practical rationality affect the semiotic/hermeneutic study of games?
- Uses accessible tools like Unity3D and Game Maker: Studio
Thanks a lot for your attention!

Questions, comments, suggestions?