

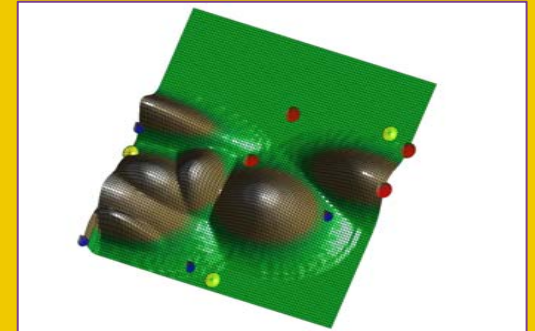
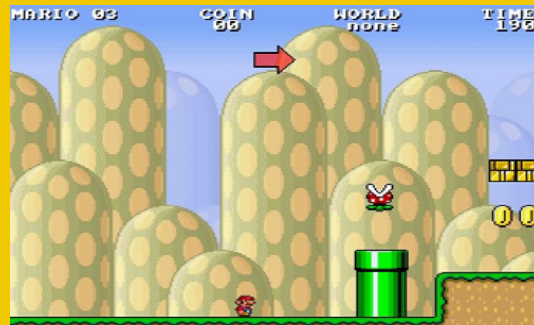
User (Player) Experience Modelling

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Denmark



Center for Computer Games Research @ ITU

- game.itu.dk
- 9 Faculty (+ 2 affiliated), 1 postdoc, 7 PhD students
- Research Areas:
 - **Analysis** (Humanities, Social Sciences): Game Theory, Narrative, Game Ethics, Game Culture
 - **Design** (Humanities, Arts, CS): Game Design, Game Aesthetics, User Experience
 - **Technology** (CS, Engineering): game AI, HCI, Player Experience, Cognitive/Affective Modeling, Game Data Mining



How to Capture Player Experience

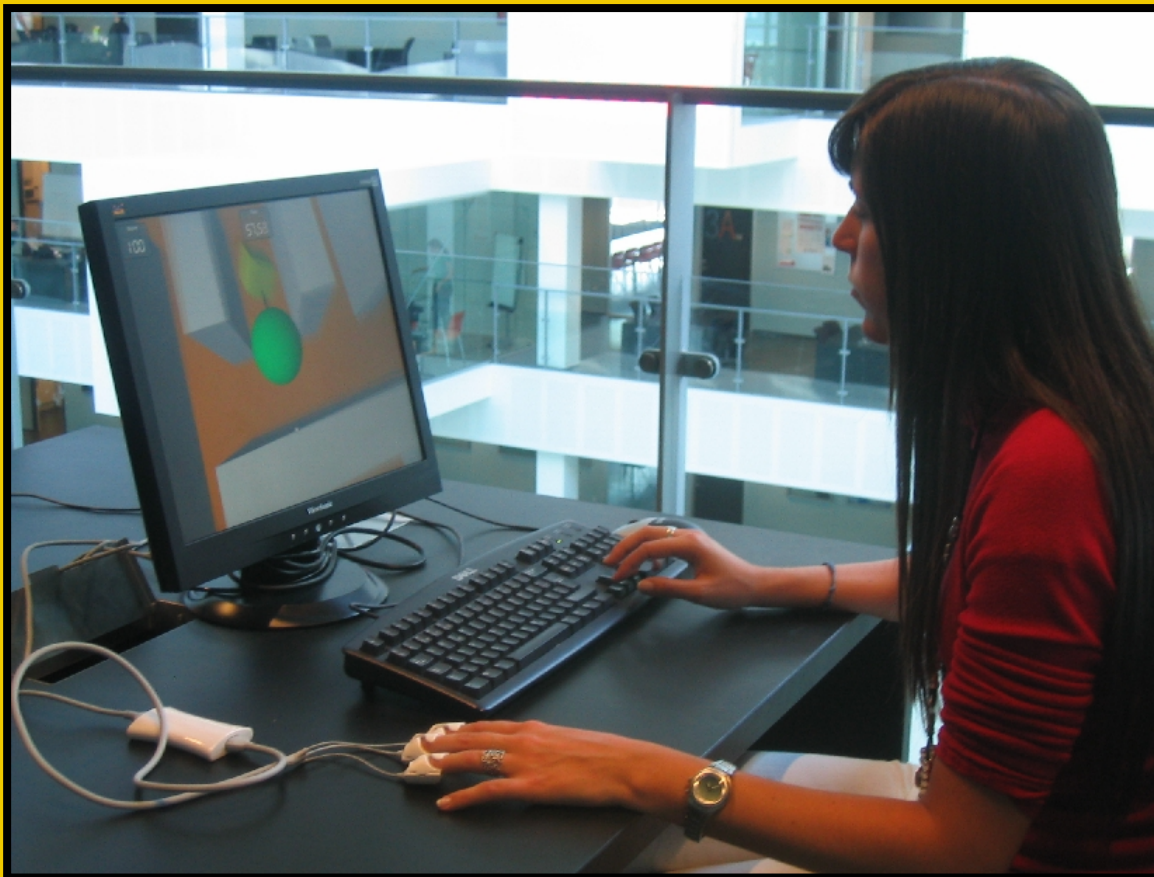
How to Capture Player Experience – Subjectively

Customer Feedback Form

provide us feedback on our service

Excellent	Very Good	Average
<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
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How to Capture Player Experience – Objectively



OPENHAGEN

How to Capture Player Experience – GamePlay



Lair © Sony Computer Entertainment America

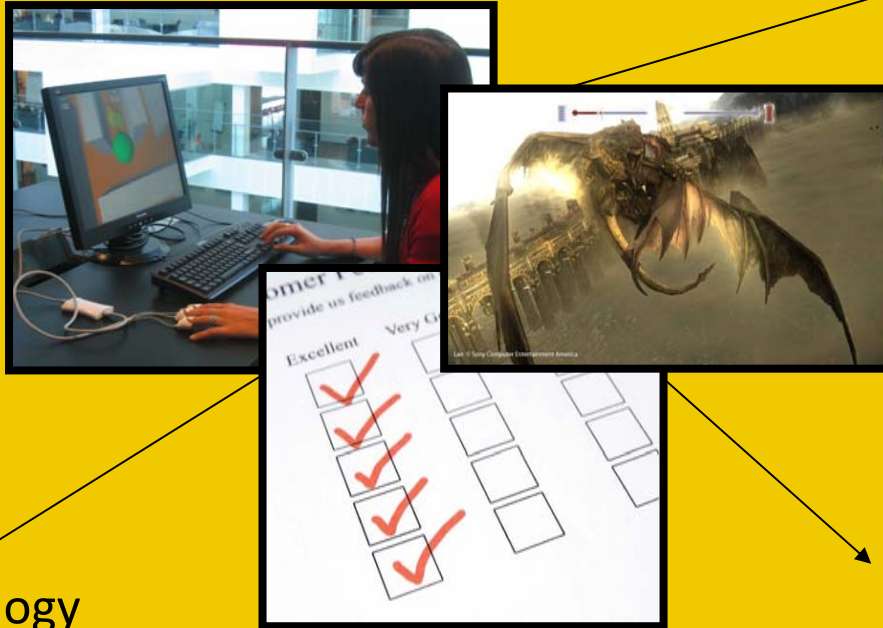
AGEN

Player Experience Modeling

Theory-driven vs. Data-driven

Machine Learning captures the relationship (function)

Player Experience
Analysis



Psychophysiology
(affective gaming)

Cognitive modeling
(player preference learning)

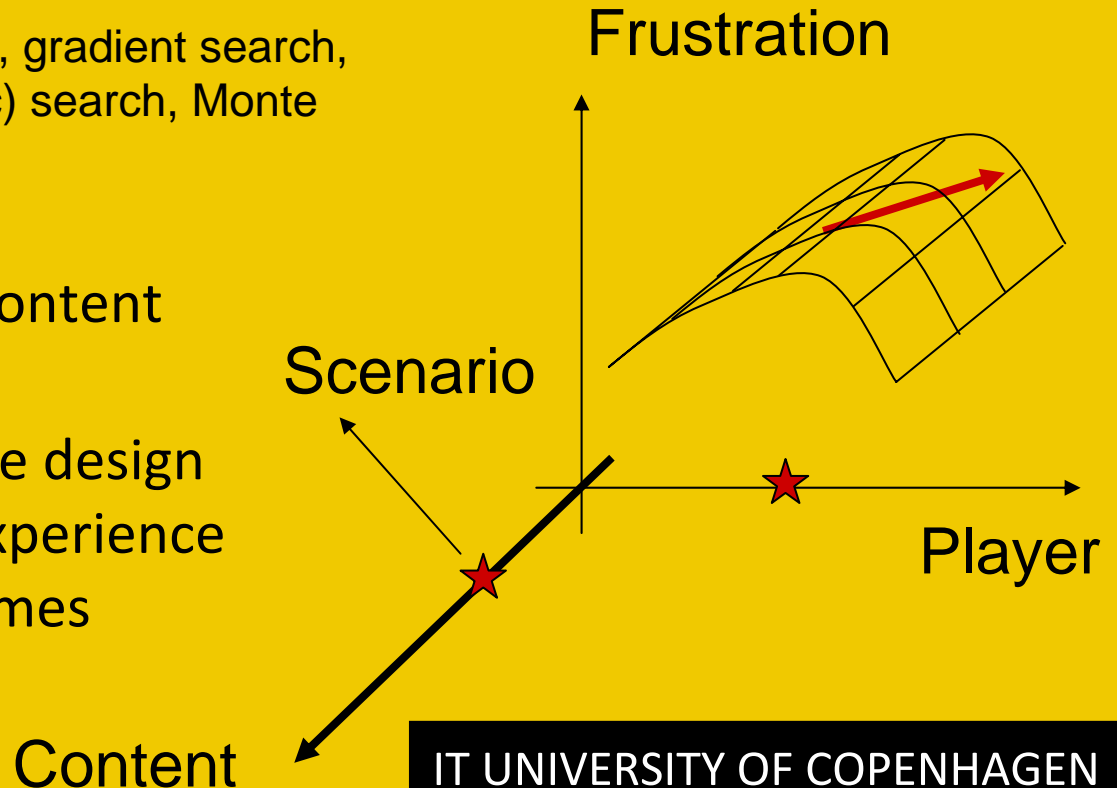
Game Content and Player Experience

- Game building block for Player Experience
- Content can be:
 - NPC behavior
 - Quest/story
 - Camera settings/profiles
 - Audiovisual settings
 - Level features
 - Game mechanics
 - Game design (?)
 - User-generated ...
- Search for **good** content

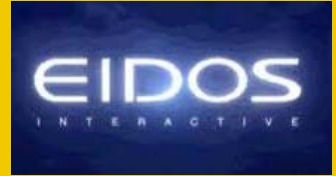
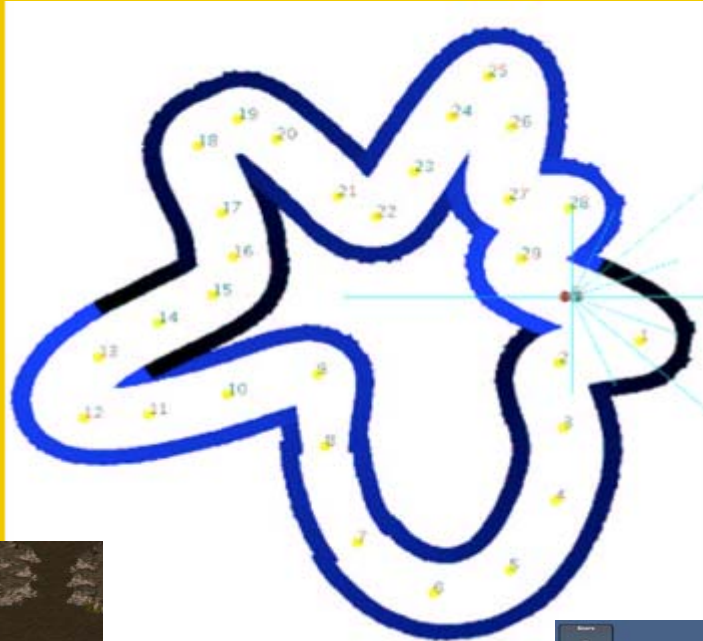
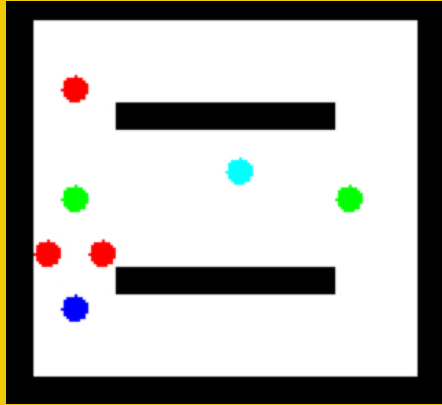


Optimize for Player Experience

- Search for **good** content
 - Exhaustive search, gradient search, stochastic (genetic) search, Monte Carlo,...
- How ?
 - Adjust Game Content
- Why ?
 - Automate game design
 - Tailor player experience
 - Design new games



Entertainment Games Projects



IT UNIVERSITY OF COPENHAGEN

Serious Games Projects

Player Experience for Wiihabilitation



Physical Interactive Games (Exertainment)



SIREN – Serious Games for Conflict Resolution

- Design games for teaching social skills in schools
- User (cognitive, affective, cultural) modeling
 - User preferences, Natural interaction (face, speech, head-pose)
- Adaptive quest (conflict scenario) generation
 - User model drives scenario adaptation



Future directions

- Adaptive (personalized) games for
 - Rehabilitation
 - Cognitive training
 - Inclusion
 - Wellbeing
 - Education
 - Entertainment
- PC / Social Network / Console / Mobile

Further Information

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