

AIED 2009

Brighton, UK

Brighton



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Brighton Pier



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Royal Pavilion



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- ▶ Building Learning Systems that Care: From Knowledge Representation to Affective Modeling
 - ▶ Empathetic agents, motivation, metacognition, affect detection, scaffolding
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Day 1

- ▶ Workshop: Enabling Creative Learning Design
- ▶ Designing for Learning with Theory and Practice in Mind
 - Problem: tension between theory and practice
 - Inference Engine
 - LDSE ontology
 - Uses Protégé
 - Users can combine learning sequences and content in their own way
 - Future work: metadata content

Day 2

- ▶ Workshop: Intelligent Educational Games
- ▶ Crystal Island – A Narrative–Centered Learning Environment for Eighth Grade Biology
 - Narrative generation
 - Source engine
 - Empirical reasoning
 - Scalability and replayability
 - Varying degrees of success



Day 2 cont.

- ▶ UrbanSim: A Game-based Simulation for Counterinsurgency and Stability-focused Operations
 - “Armed social work”
 - Uses PsychSim
 - Turn-based
 - Story driven (triggers)
 - Tutoring system
 - Future work


Day 3

- ▶ Keynote: Can Computers Teach You to Think and Care? Revisiting the Modeling Debates with an Eye to the Future
 - Health professionals
 - Cognitive Tools
 - Cognitive Apprenticeship
 - BioWorld
 - Expert models
 - Diagnosis

Day 3 cont.

- ▶ Talks: Affect, Metacognition, and Motivation
- ▶ Emotion Sensors Go to School
 - Best paper award
 - Math learning in middle/high schools
 - Analyze relationships between student affective state and desired outcomes
 - Sensors: seat, camera, wrist sensor, mouse
 - Guide tutor
 - Enhance prediction of affective self-reports

Day 4

- ▶ Talks: Intelligent Games and Exploratory Learning Environments
 - ▶ Off-Task Behavior in Narrative-Centered Learning Environments
 - Crystal Island
 - Disengagement from learning activity
 - Presence test
 - 50 minute game session
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Day 4 cont.

- ▶ Using Task-Based Modeling to Generate Scaffolding in Narrative-Guided Exploratory Learning
 - Games for learning versus games for fun
 - Common framework
 - Annie
 - Integration of gameplay and pedagogy
 - Dynamic generation
 - Supports multiple limited paths to success
 - Failure is possible
 - Tasks – preconditions and effects
 - Goal proximity reasoning

Day 5

- ▶ Keynote: Open–Domain Sketch Understanding for AI and Education
 - Sketching is a means of communication
 - Most sketch understanding software equates understanding with recognition
 - Narrow domain, requires corrections
 - Application of sketching to learning
 - Human–like visual processing, spatial reasoning, and conceptual understanding
 - CogSketch
 - Create glyphs, label them, compare them to others

Thank You!

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GAME 2 LEARN

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Works Cited

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Patricia Charlton, George D. Magoulas, and Diana Laurillard.

"Affective Reasoning with Crystal Island"
Karl Nilsson, Jennifer Robison, and Jonathon Rowe.

"UrbanSim: A Game-based Simulation for Counterinsurgency and
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“Emotion Sensors Go to School”

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“Open-Domain Sketch Understanding for AI and Education”

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