Recent Advances in Game-Based Virtual Worlds at UCI

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http://cgvw.ics.uci.edu

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Motivation

What are we doing?

- Empirical research and technology prototyping of CGVWs that support challenge problems in science, health care, energy, environmental, and defense studies

Why are we doing this?

- CGVWs are both *technology* and *new media*
    – this represents a new opportunity area for research and innovation
- Enable immersive and transformative experiences that facilitate learning through R&D and Play
- Engage new students and emerging scholars

Web-based science learning games for informal science education for K-6 students and families

http://www.DQOnline.org/
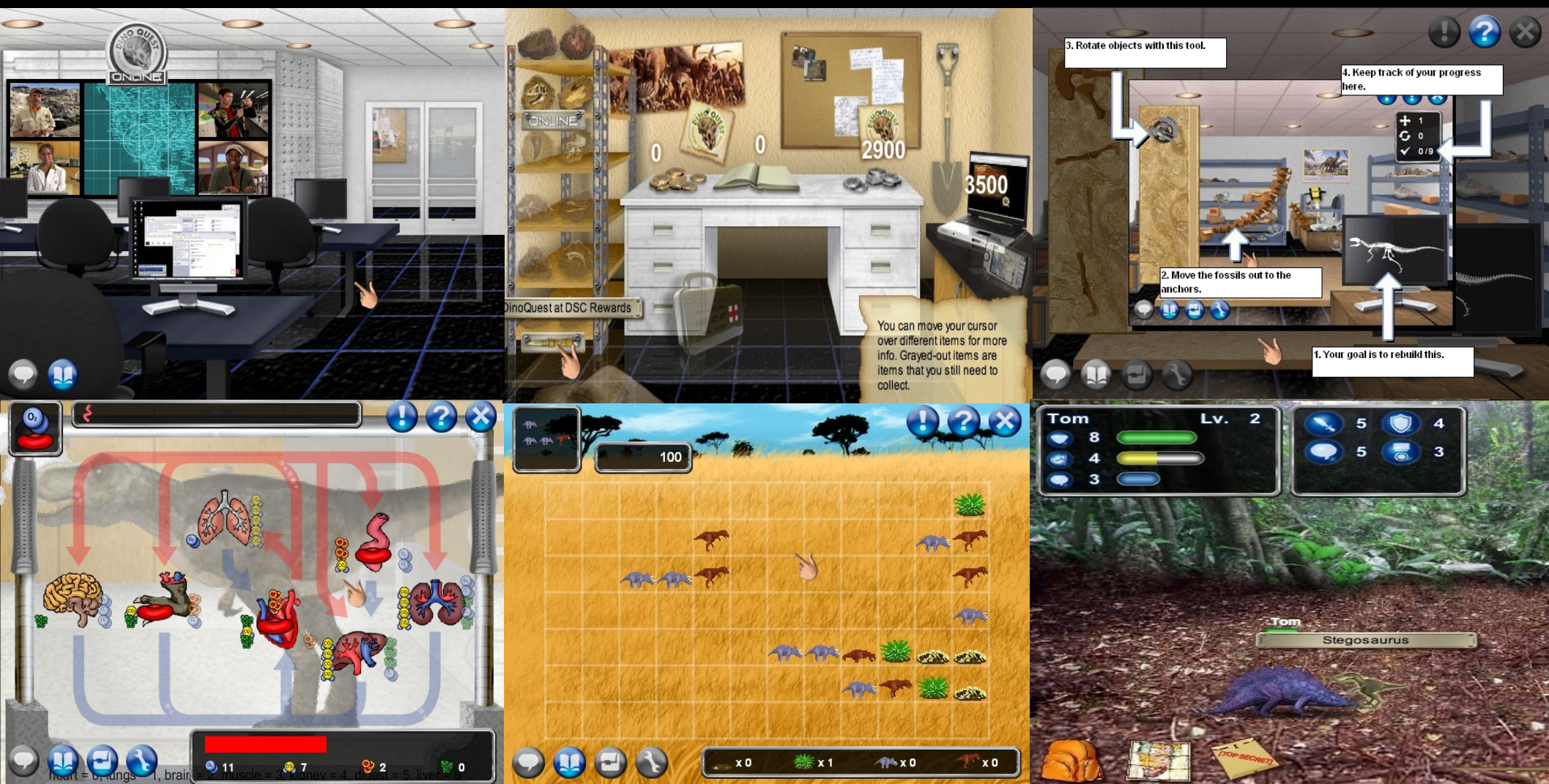
Scacchi, W., Nideffer, R. and Adams, J. (2008), A Collaborative Science Learning Game Environment for Informal Science Education, in *New Frontiers for Entertainment Computing*; P. Ciancarini, R. Nakatsu, M. Rauterberg, M. Roccetti (Eds.); Boston: Springer, 71–82.

Game-based VW incorporating real-world news feeds and geopolitically located Twitter feeds
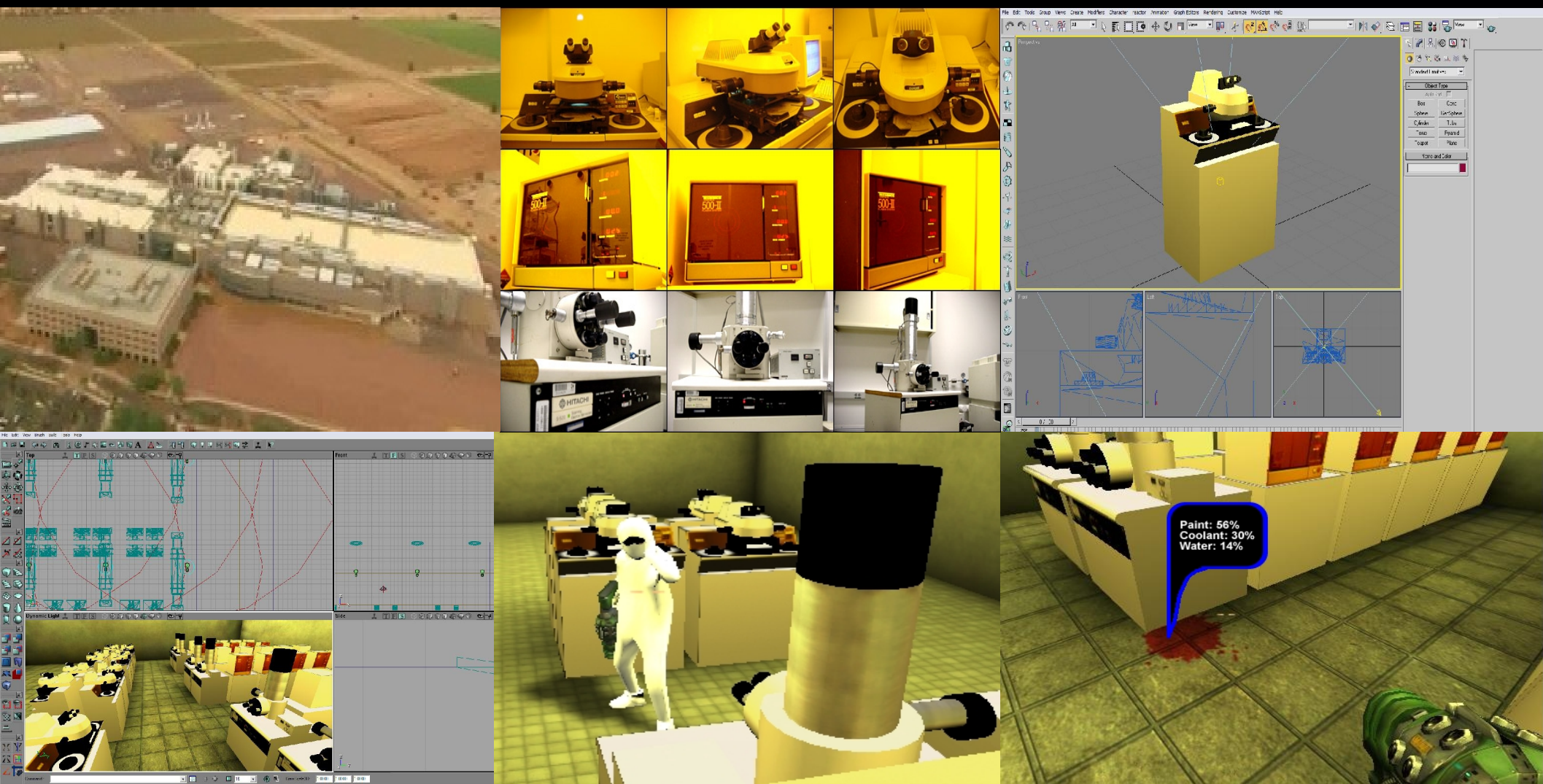
Computer games developed by UCI video game developers club (undergrad students)
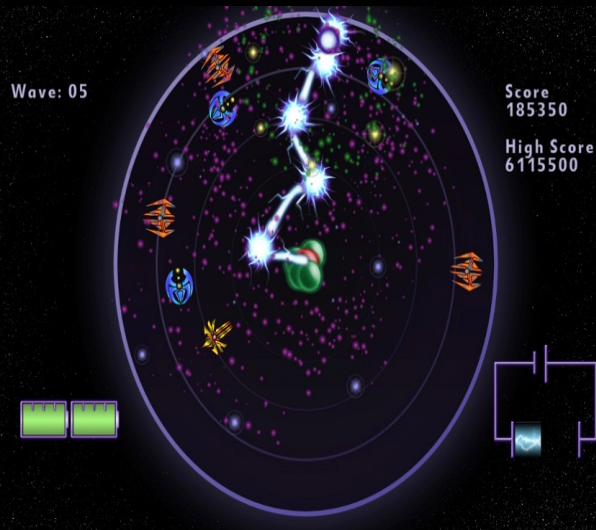
CGVW Laboratory and experimental game devices

# Semiconductor/nanotechology fabrication training game

FabLab Demo Reel

Scacchi, W. (2010). Game-Based Virtual Worlds as Decentralized Virtual Activity Systems , in W.S. Bainbridge (Ed.), *Online Worlds: Convergence of the Real and the Virtual*, Springer, New York, 225-236.

Planetary science data visualization and "spherecasting" support:
NOAA Science on a Sphere installation in *Opensim* VW platform
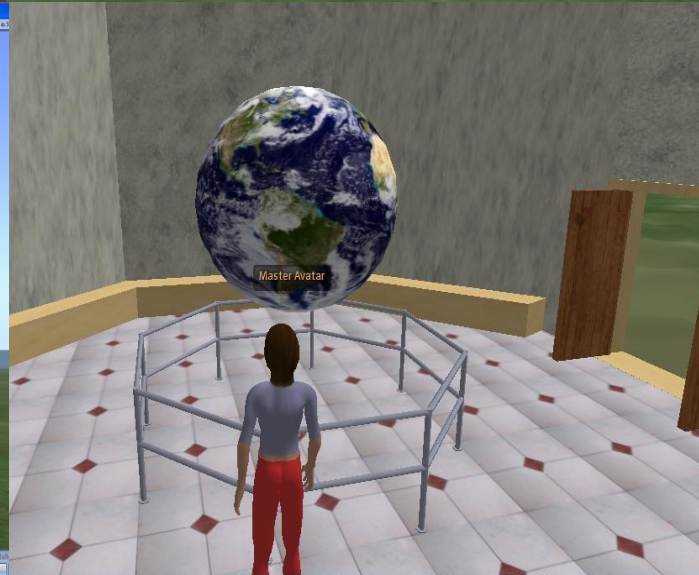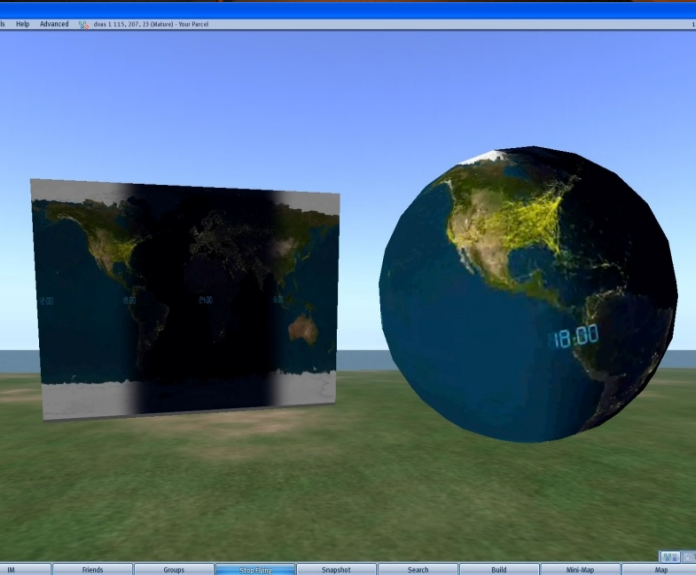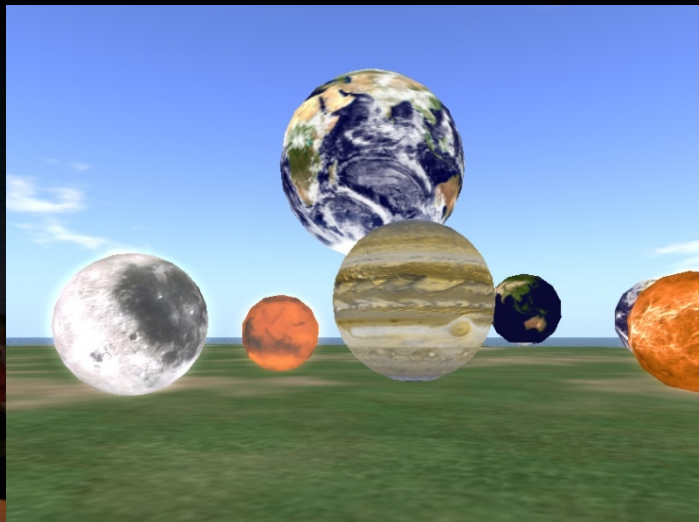
VW for experimental studies in decentralized command and control centers

Research Collaborators

Faculty
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Research Staff
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External Partners
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