

More Fun and Games for Collaborative Play

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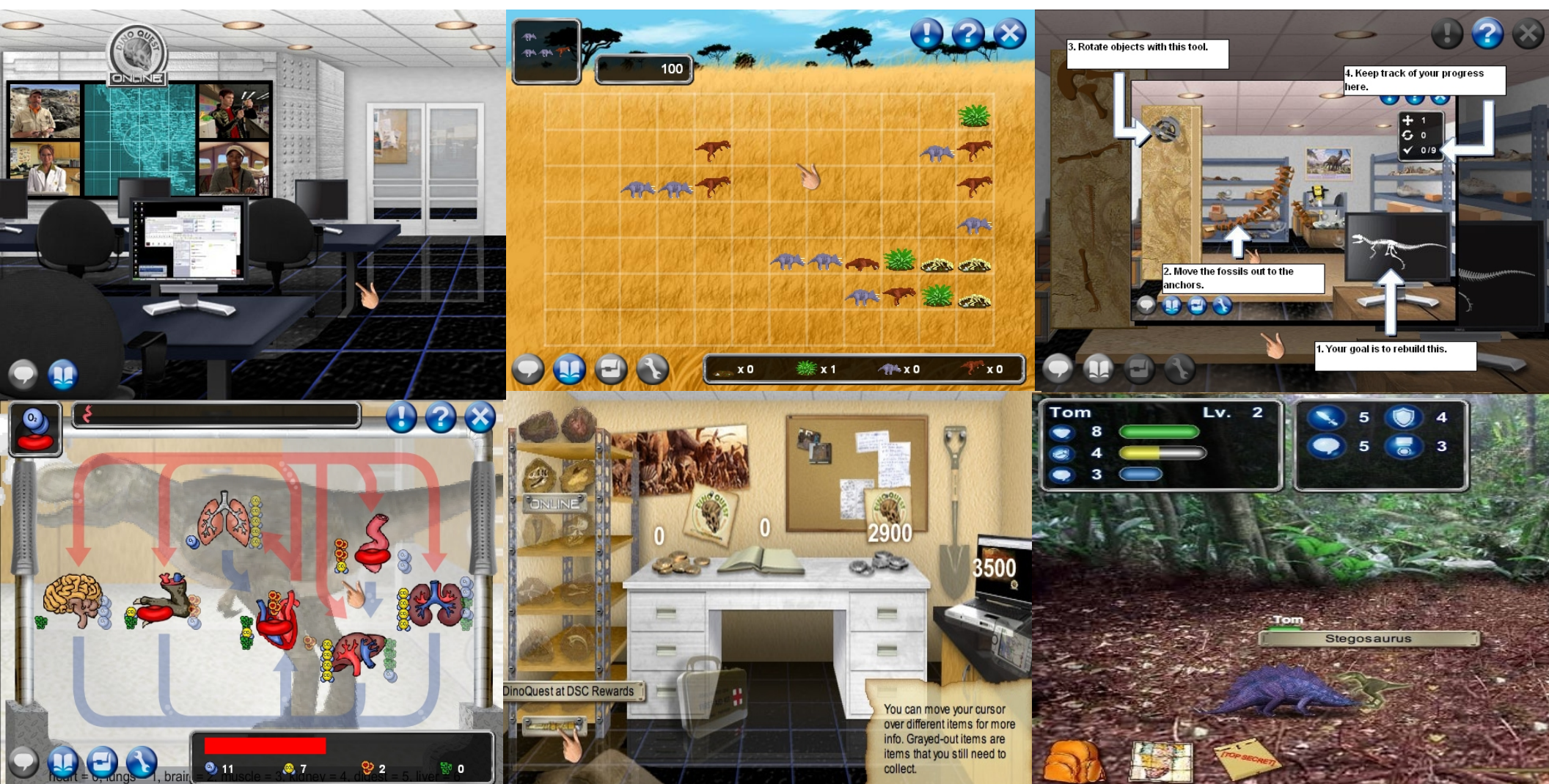
University of California, Irvine

<http://UCGameLab.net>

Overview

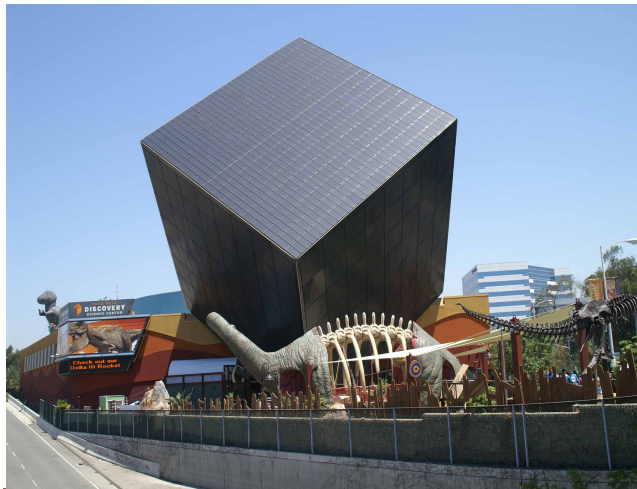
- Collaborative science learning game (SLG) environment at *Discovery Science Center*
 - **DinoQuest Online (DQO) and DinoQuest**
- Collaborative game world for semiconductor fabrication or nanotechnology design
 - **FabLab training simulator for Intel**
- Envisioning future virtual worlds for possible cultural and technological opportunities
 - **Intel Research (w/ Linden Labs)**
- Next-generation, client-side game engine (Rich Internet Application)
 - **2D, side-scrolling, role-playing game engine and SDK (“DQO 2.0”)**
 - **MMOG back-end server (in development)**
 - **Daegu Global R&D Collaboration Center**
- Pathway to MMOSLGs spanning network of science centers

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



<http://www.DQOnline.org/>

Mixed reality games for informal science education for K-6 students and families

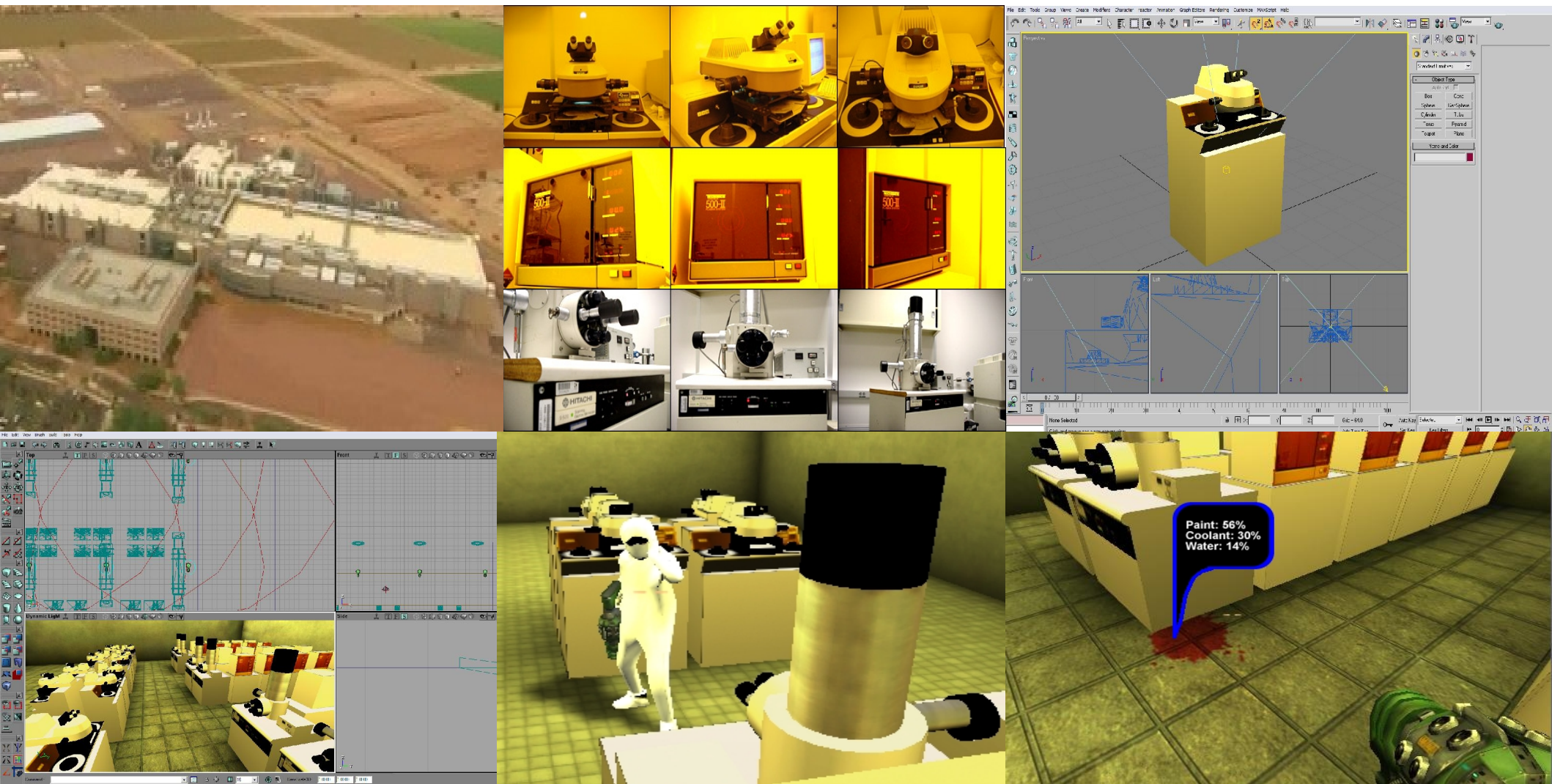


 **DinoQuest Research Team and Collaboratories:**
Diverse Science Role Models (ethnicity, age, gender)



<http://www.DiscoveryCube.org/>

Semiconductor/nanotech fabrication training game



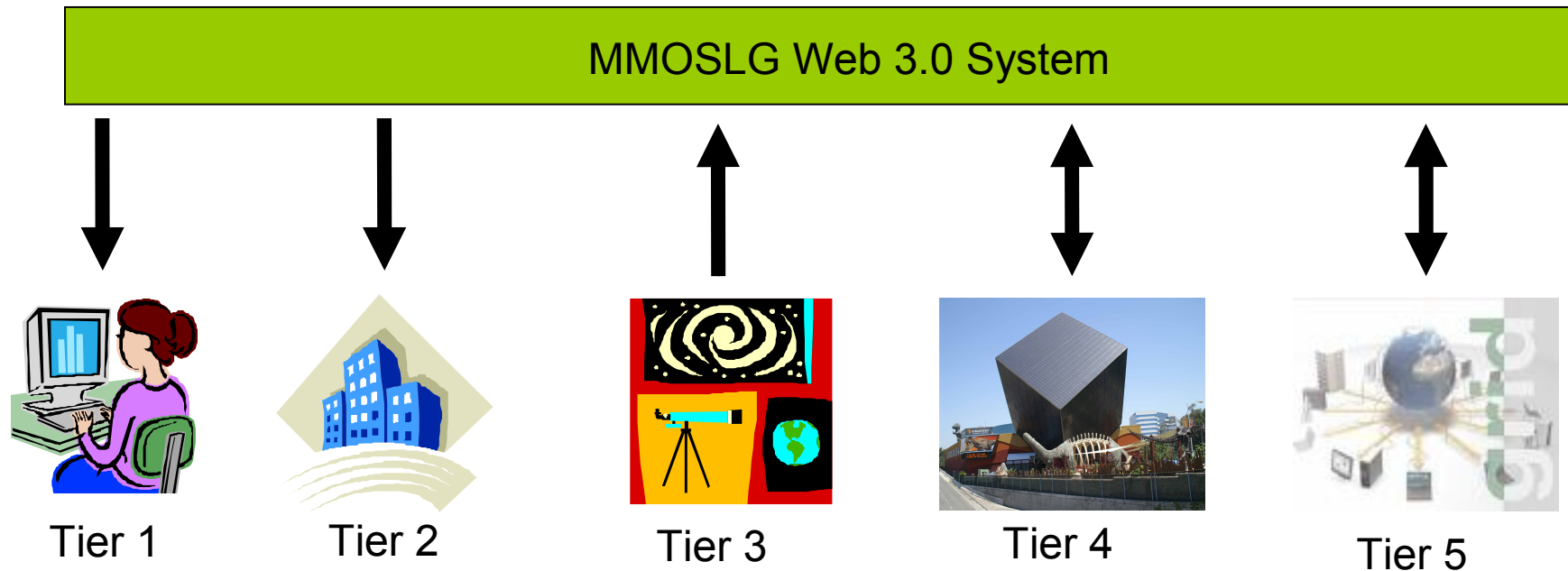
FabLab Demo Reel

Envisioning collaborative virtual worlds 2010-2012



Virtual Life Demo Reel

Goal: Develop cyberinfrastructure for networked SLG-based science centers



Tier 1: Individual player connection: your Internet connection at home.

Tier 2: Local institutional connection: library, science center, school.

Tier 3: Regional science center provides local exhibit content connected online.

Tier 4: “Gateway” science centers provide open interfaces and extensible content.

Tier 5: Science Center Grid: **Massive Multiplayer Online Science Learning Games and collaboration infrastructure** for informal K-12 science education

Possible research opportunity areas for game-based learning environments

- **Skill adaptive learning games**
 - Games that “adjust” the level of game-based learning strategies based on the player's manifest skill level
 - High functionality learners get to level up at a faster rate compared to low functionality learners who can level up in smaller/more appropriate levels
- **Caregiver community awareness learning games**
 - Games designed to help parents, siblings, teachers, and others to more rapidly learn how best to support a special needs learner
 - Provide caregivers opportunities to experience role-playing with in-game non-player characters whose learning needs may vary dynamically over time or in different situations
- **Massively multiplayer online special needs learning games (MMO-SNLG)**
 - Online virtual world that focuses on providing different support services and learning opportunities for all parties involved in facilitating ASD learners.

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