# More Fun and Games for Collaborative Play

Walt Scacchi, Robert Nideffer, Alex Szeto, Yuzo Kanamoto, Craig Brown, and others


University of California, Irvine

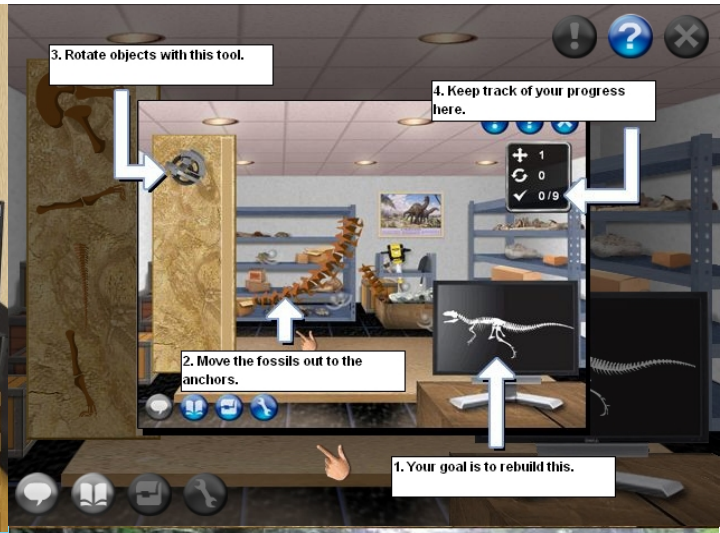
**http://UCGameLab.net**

# 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





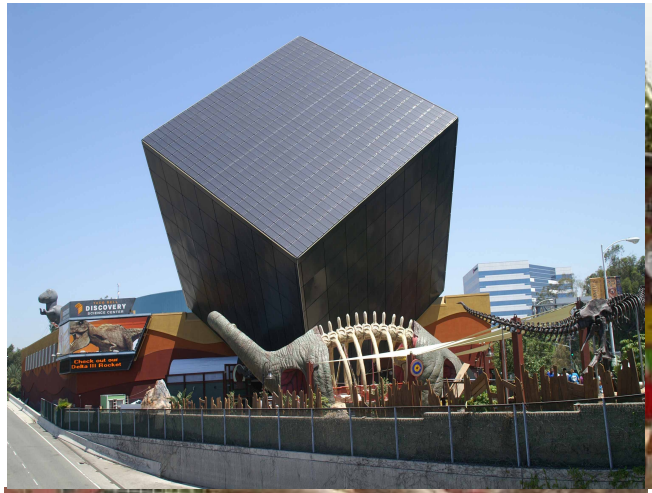




DINO QUEST DISCOVERY SCIENCE CENTER ONLINE

http://www.DQOnline.org/

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



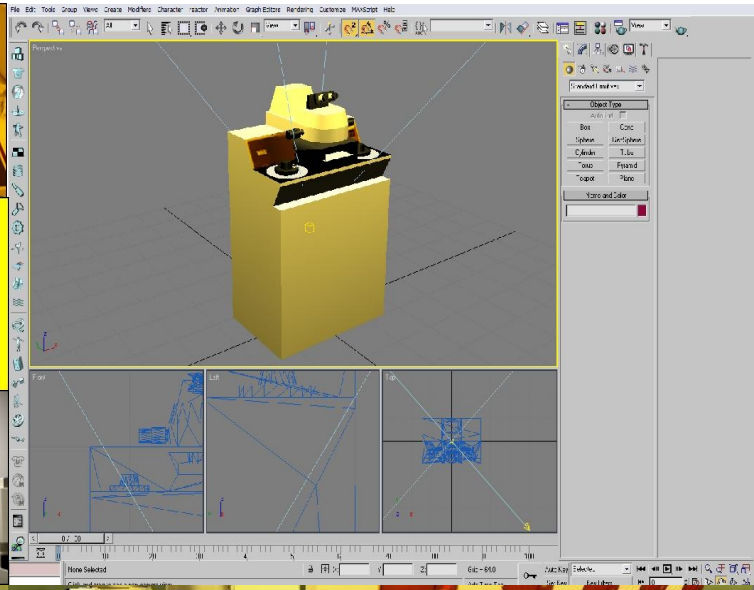

DinoQuest Research Team and Collaboratories:
Diverse Science Role Models (ethnicity, age, gender)

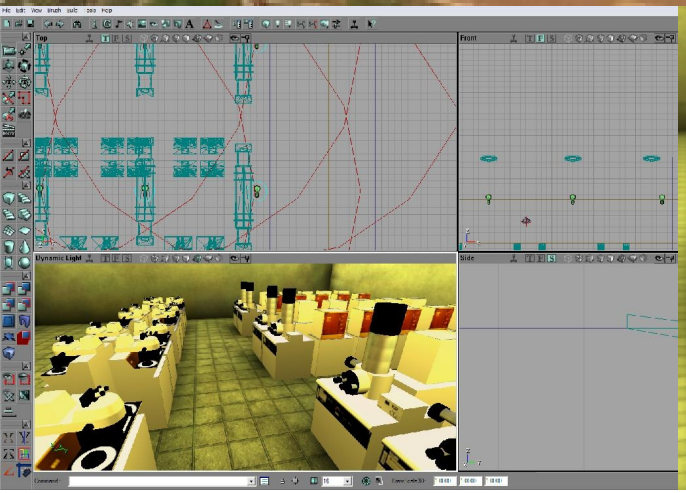
DISCOVERY SCIENCE CENTER

DINO QUEST
DISCOVERY SCIENCE CENTER

http://www.DiscoveryCube.org/

# Semiconductor/nanotech fabrication training game



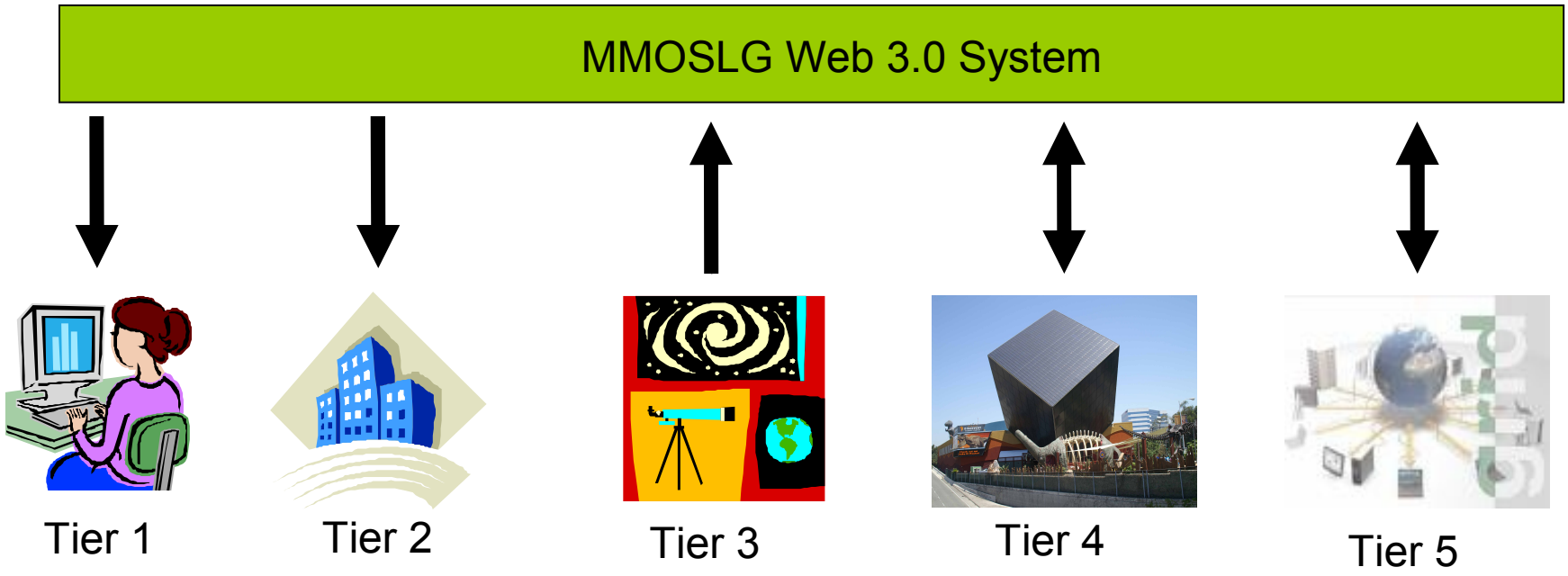



FabLab Demo Reel

# 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.**

# UCI GameLab Research Partners and Sponsors

DIP
Daegu Digital Industry Promotion Agency

NSF

Taco Bell Discovery Science Center

Sun microsystems

intel

the UC Discovery Grant
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information and computer sciences


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