More Fun and Games for Collaborative Play

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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

http://www.DiscoveryCube.org/

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

http://www.DiscoveryCube.org/
Semiconductor/nanotech fabrication training game
Envisioning collaborative virtual worlds 2010-2012

Virtual Life Demo Reel
**Goal:** Develop cyberinfrastructure for networked SLG-based science centers

**MMOSLG Web 3.0 System**

**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.