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

- **Very Large Video Displays**

- **Collaborative Work in 3D Worlds**

- **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/
Semiconductor/nanotech fabrication training game

FabLab Demo Reel
Envisioning collaborative virtual worlds 2010-2012

Virtual Life in 2010+
a vision of the future

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

• **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 learning games (MMOLG)**
  – 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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