Game Web Research at the UCI Game Lab

Walt Scacchi

and

California Institute for
Telecommunications and Information
Technology (Calit2)

Game Web as Culture and Technology

- Games as immersive, experiential literary form -- *game play as emergent narrative*
- Gaming as rapidly growing *global industry*
- "Modding" and making games as practice-based *learning* and *career development*
- Game-based *virtual worlds as work spaces*
- Games as *new media* and cultural form
- Game culture as *social movement*


t3h S00p4rFr34k!
<Freakshow>
Level 30
Elite Boss
Actions
Options
All Pets
Call Genin
Keitaro
Seta
Taka
Call Jounin
Fujisawa
Chiba-san
Oni
Moshigosan
Pets
Arachnie
Ms. Chievous
Kick
Promote
Find
Quit
Team Friends Super Email Tab 1 2 3 4
Global Combat Rewards System
You gain 102 experience and 71 infamy.
t3h S00p4rFr34k!: d0 j0u d4r3 t0 ch4l13ng3 t3h p0w4r 0f t3h S00p4rFr34k!?
You have defeated Slag Heap
You gain 102 experience and 71 infamy.
t3h S00p4rFr34k! has defeated Battle Drone
Team:
Destroy the SuperFreak
Defeat the Superfreak
Map Contact Mission Clues Badge
Chat Tray Target Nav Menu
Seta
Arachnie
Chiba-san
Keitaro
Arachnie
Fujisawa
Arachnie
Ms. Chievous
Agent of Discord
Moshigosan
Arachnie
Taka
Arachnie
Powers Inspirations Enhancements Salvage
Att
diss
Beat
SSR
SSF
Go
CSF
FSF

UCI Game Web Researchers

- ***Studio Art***: Robert Nideffer (*Director*), Antoinette LaFarge
- ***Informatics and Computer Science***: Dan Frost, Crista Lopes, Bonnie Nardi, Bill Tomlinson, Andre van der Hoek
- ***Engineering***: Steve Jenks, Sung-Jin Kim, Joerg Meyer
- ***Institute Software Research***: Walt Scacchi (*Research Director*),
- **Others**: Tom Boellstorf (Anthropology), Kim Burge (Education), Christopher Dobrian (Music), Peter Krappe (Humanities/Film Studies), Patricia Seed (History), Charlie Zender (Earth Systems Science)

UCI GameLab Research Partners and Sponsors

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TACO BELL DISCOVERY SCIENCE CENTER

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the UC Discovery Grant
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gamespy

K2 NETWORK GAMERS FIRST.

Linden Lab

Open Source Game Software Development

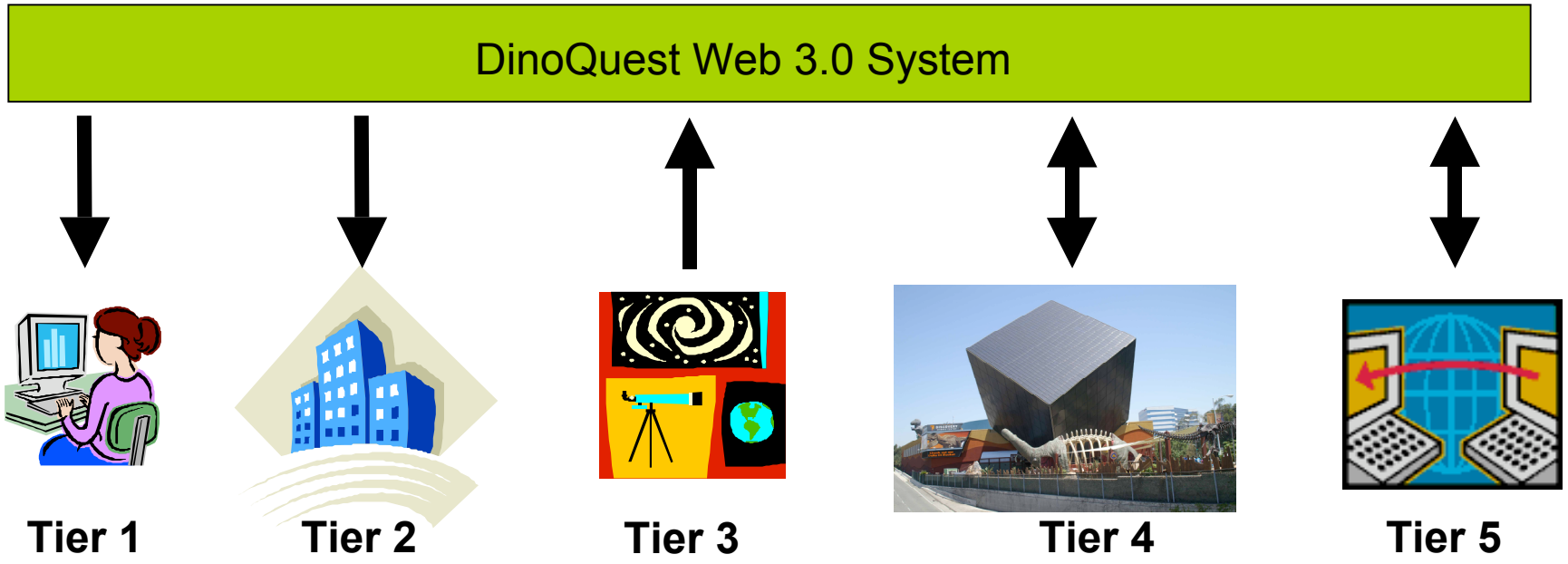
- The most successful OSSD projects obtain *sustained exponential growth* in their innovation frontier.
- Computer game software development is the #1 application area (and #2 overall) for Open Source Software development (OSSD) projects.
  - Growing number of commercial computer games now ship with tools for creating OSS game "mods"
- Future game and Web 3.0 development will increasingly depend on global OSSD practices and components.

Science Learning Games (SLG) for Informal Science Education

- Physical interaction quest game: *DinoQuest* at the Discovery Science Center (Santa Ana, CA)
  - Life-size dinosaurs (T. Rex, Argentinosaursus)
  - Family-based problem-solving and collective learning in physical environment
  - Game progress tracked via user-controlled IR wand that activates embedded sensor net
- Web-based SLG: *DinoQuest Online*
  - Addresses CA science education standards for K-6 grades
  - Interoperates with *DinoQuest*
  - Designed for internationalization
  - Developed by UCI GameLab
- DSC planning new SLG exhibits through 2010
  - $60M investment planned

DinoQuest Online

DSC+UCI working to develop network of SLG-based science centers and exhibits



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.

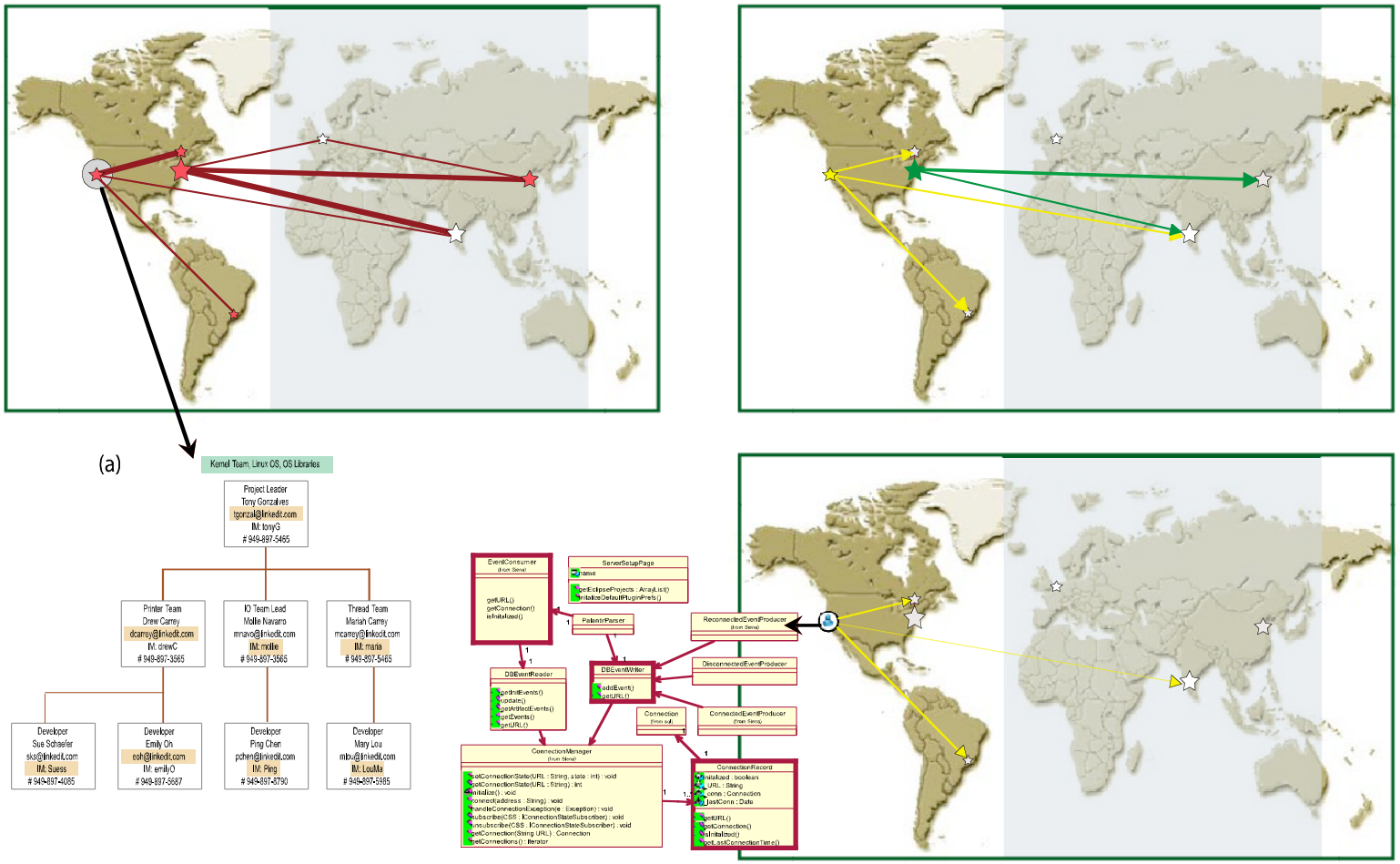
Tier 4: “Gateway” science centers provide open interfaces and content.

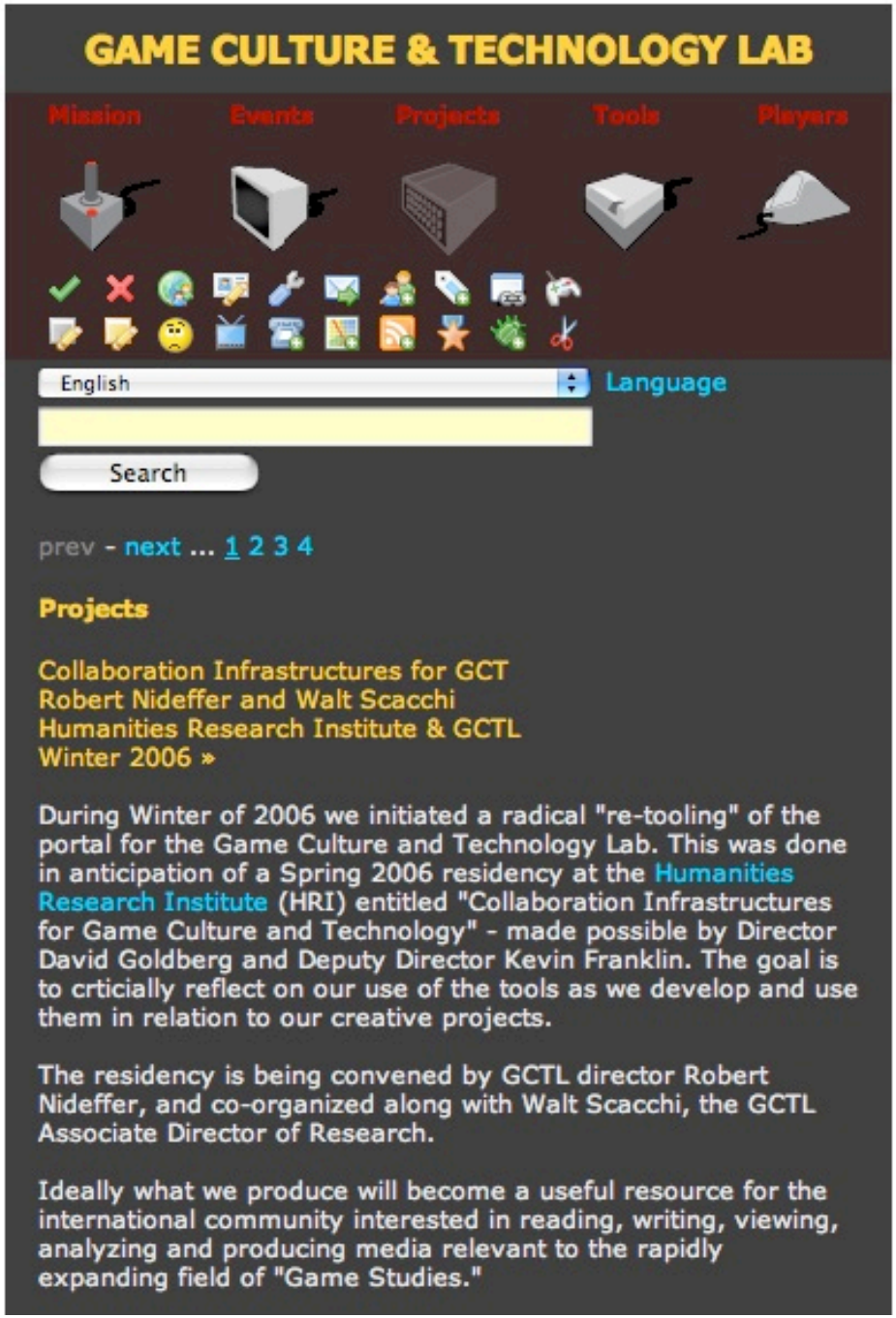
Tier 5: Science Center Grid: **Massive Multiplayer Online Science Learning Games**

Persistent Collaborative Work in a Virtual World

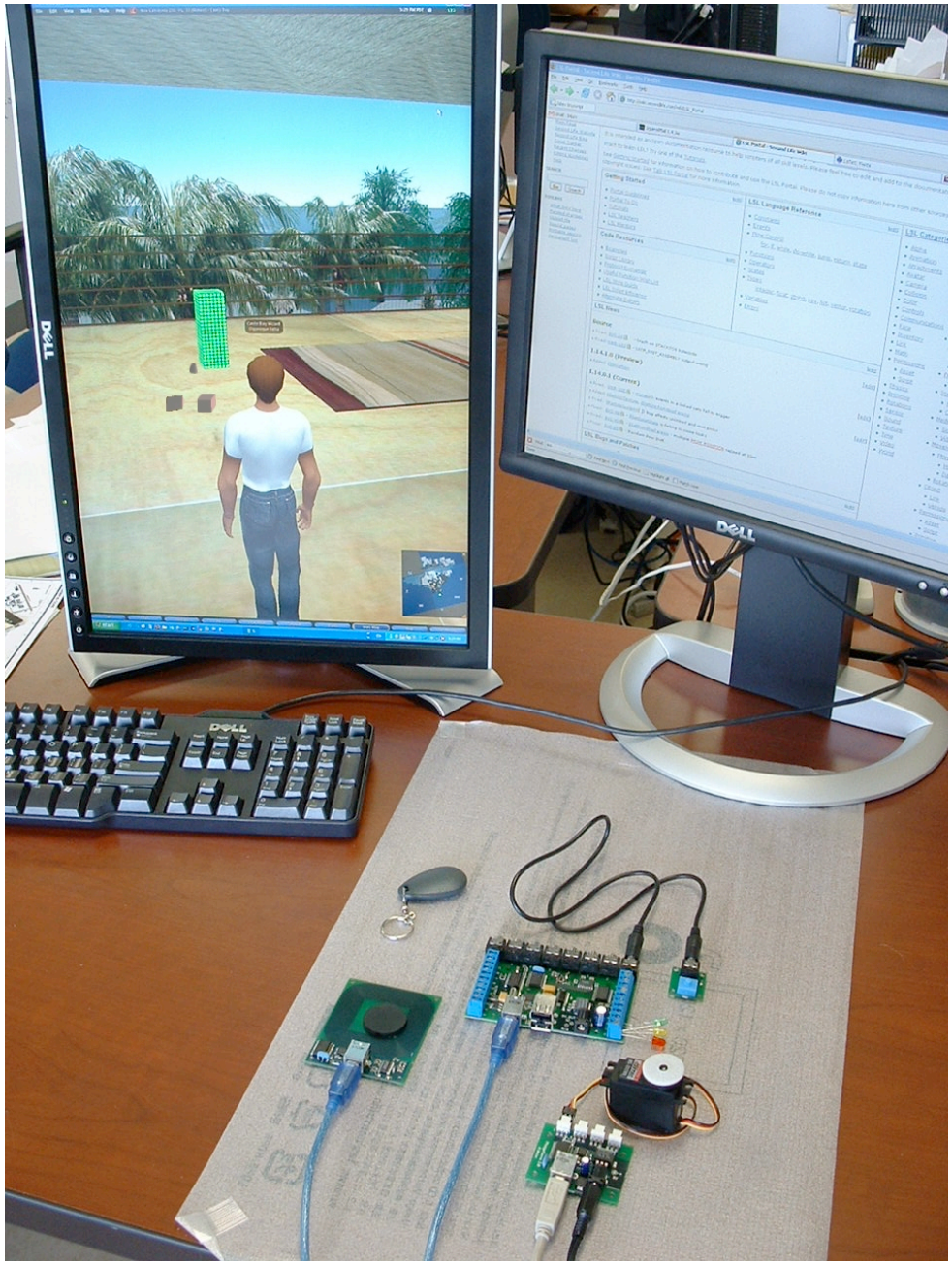
- People meeting and working together through a persistent online information infrastructure
- Provide new ways of working together
- Provide new concepts, techniques, and tools for collective action/work spanning physical-virtual
- Confront uncertainties of sustained collaboration with limited/no face-to-face interaction
- Develop or invent innovative solutions

The World View Map



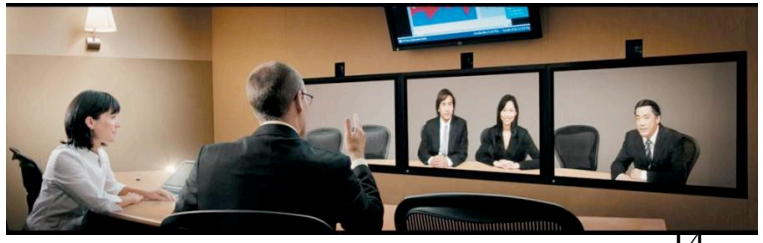


DICE: Domain Independent Collaboration Environment



Bridging the physical-virtual world boundary

Game Web Collaborative Work Spaces



Transforming Science, Engineering, and Business via Web 3.0

- Games can employ advanced scientific models, simulations, visualizations
  - Global Climate Systems Science game engine
  - Nanotechnology-based “incredible machines”
  - Supply chain/infrastructure transformation quest
- Game Web environments can become platforms for experimentally interacting with emerging scientific models, business processes, and domains of expertise
- Web 3.0 will create new engine for innovation!