Institute for Software Research
UNIVERSITY OF CALIFORNIA, IRVINE

GAME CULTURE & TECHNOLOGY LAB

Game Grids and Game Culture: Research Vision

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Overview

- Research Problems
- Approach
- Related efforts
- Conclusions

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HOT June Draw - $265 Game Server Rental
March Prize Draw Winners
HOT Review: AudioFX Gaming Headset
Csports.net Teams Up With betOG
What's on CSPORTS.net
All-time Player Names 411,997,165
Active Players 21,655,238
Player Hours Today 3,056,344
Players Online Now 159,766
Servers Online Now 86,313
Modifications Recorded 3,072
Maps Recorded 315,318
Registered Members 183,238
What's on CSPORTS.net

The *Game Grid*

- A networked, clustered computing environment for researching, developing, playing and experiencing (beyond) next generation computer games and game worlds.
  - Not just Web services framework and computing grid fabric.
- But a *testbed*, *archive*, *community* and *venue* for new ways of developing, deploying, and performing game-based synthetic or mixed reality environments across a variety of (heterogeneous) platforms.
- See http://www.ucgamelab.net

(One) Game Grid research problem

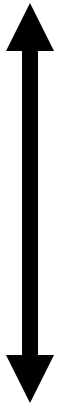
- What is the *best* way to rapidly create networked game worlds and play experience?
  - "best" =>
    - faster, better, cheaper
    - open source (e.g., BSD/MIT style license)
    - (global) community-based development, contribution and support
    - Fun, enjoyable, intrinsically motivating, disruptive, etc.
- Modification, Construction, or Generation?

Proposed solutions

- Modification
  - Hack existing game content, levels, engine
  - Repurpose content/data from other sources
- Construction
  - Scripting (*UnrealScript vs. C-shell/Perl/Python/…*)
  - Custom programming using SDK and other tools
- Generation
  - Parameter value instantiation
  - Macro expansion
  - Language-directed (game) application generation
  - Meta-environments tailored for (game) domain

Proposed solutions: evaluation

- Generation
- Modification
- Construction



Automated support?

Ease of use/development?

Flexibility?

Approach

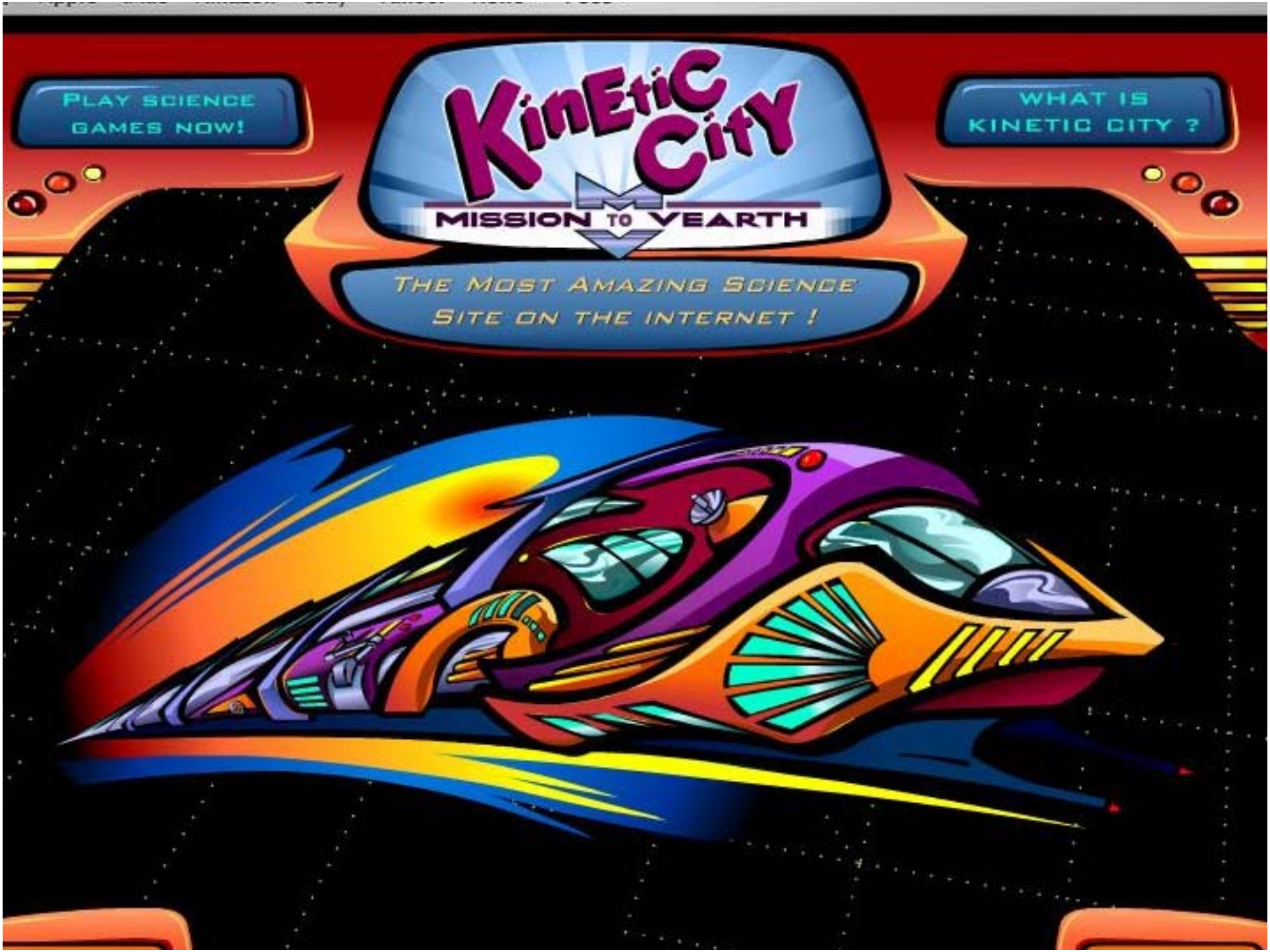
- Investigate the development and use of *meta-environments* for new game domains
  - Support generation, modification, and construction techniques and tools
  - Target (non-traditional) game domains relevant to artists, scientists, humanists, software developers, gamers, etc.

Related R&D efforts

- visual and performing arts
  - e.g., *machinima*
- science and technology education
  - informal education in science
- humanities and social sciences
  - graphic narratives for storytelling
- alternative game cultures and venues
  - hot rod game machines and *GameCon's*

Informal Science Education as a Game Grid Community?

- Science Games
- Classical Physics Game
- Quantum Physics Game
- 3D MEMS Device Design as new game?
- MEMS Device vs. Mighty Mite game?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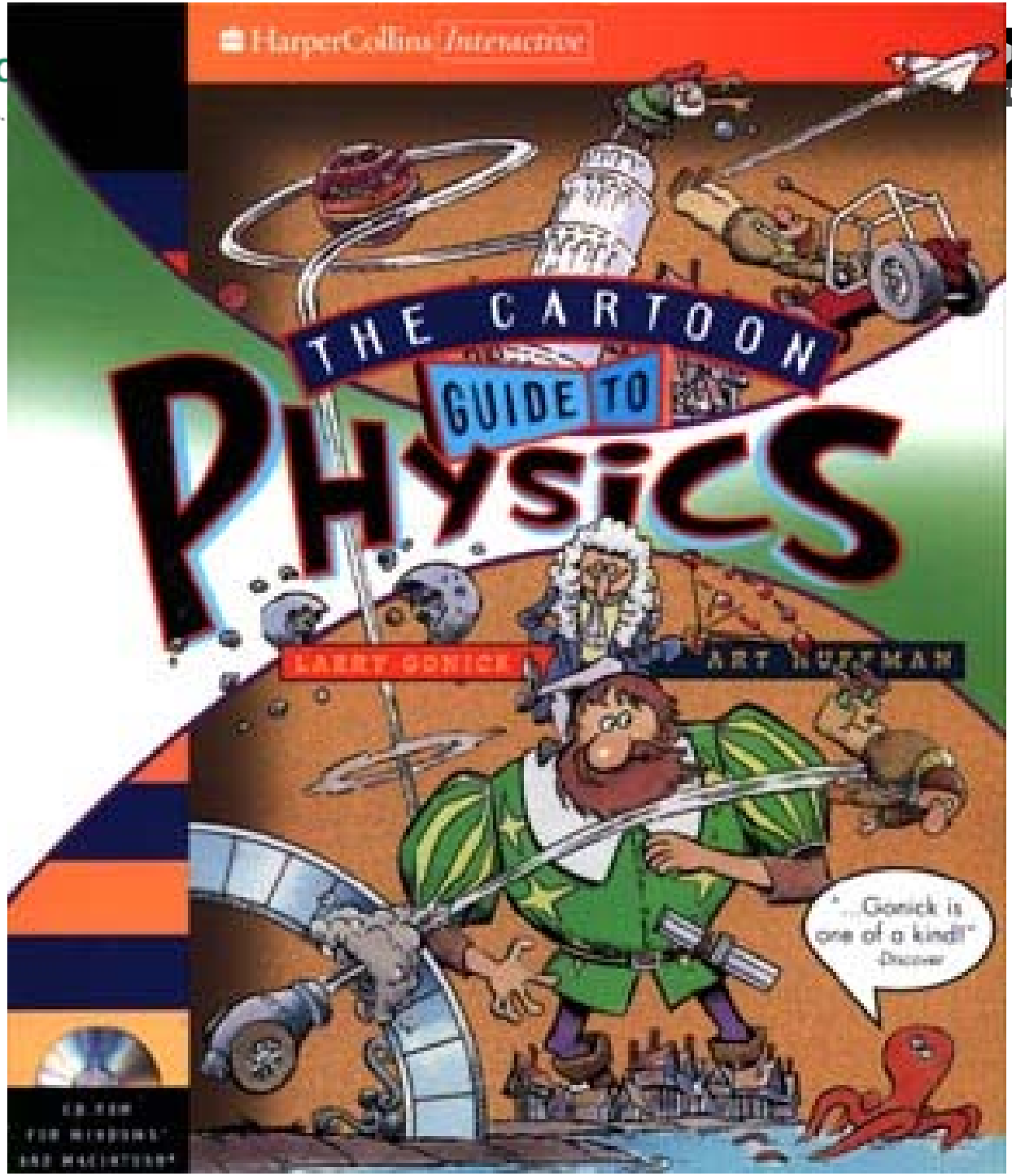
WHAT IS KINETIC CITY ?
THE MOST AMAZING SCIENCE SITE ON THE INTERNET !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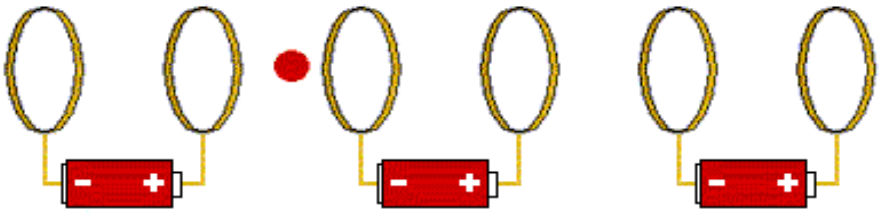
TOOLS

Accelerate the Particle



PLAY GAME

(may take a few moments to load)

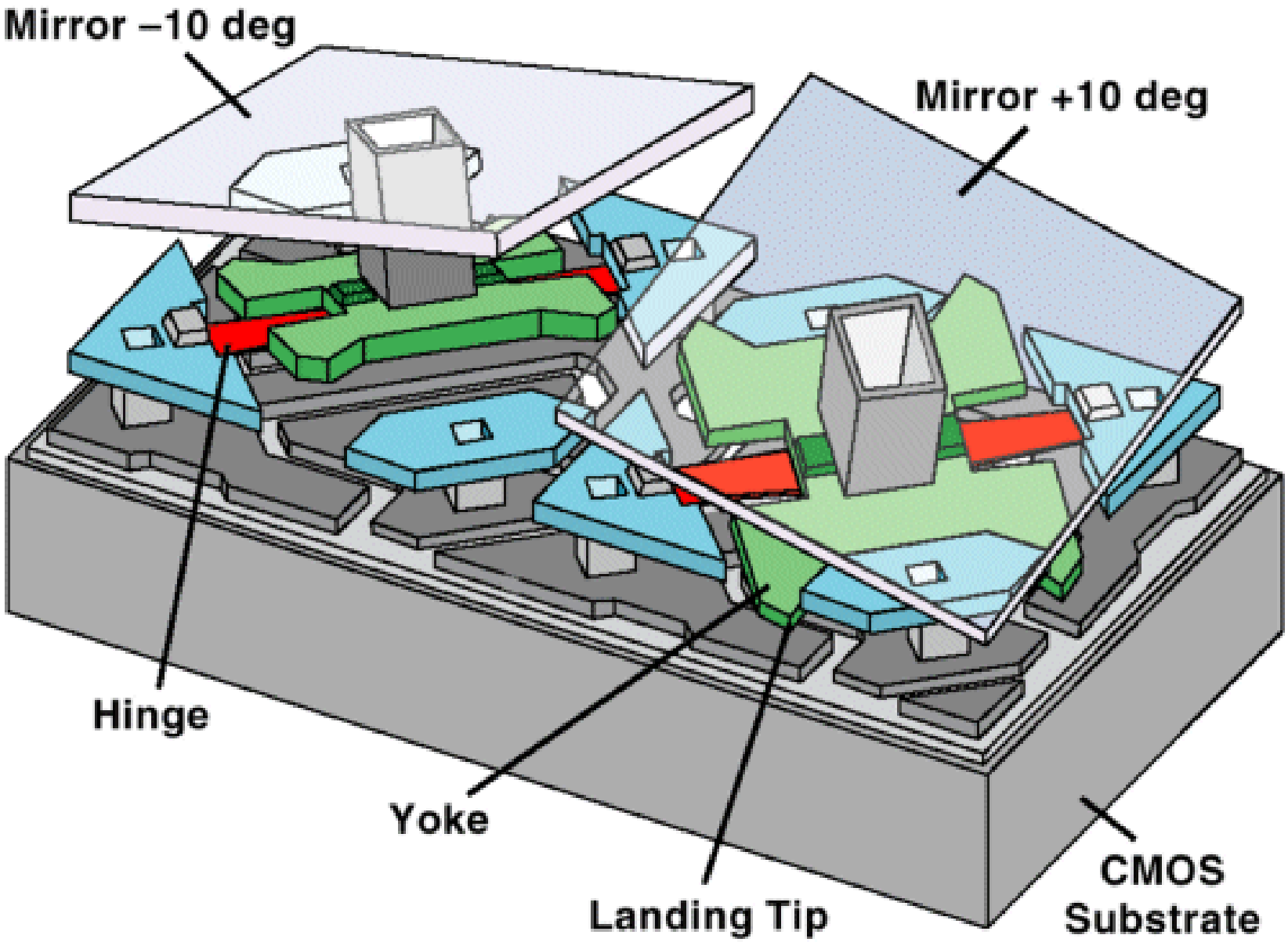
game created by CERN

THE HEART OF THE MATTER

Research at CERN that garnered a Nobel Prize in 1984: Carlo Rubbia and Simon Van der Meer for the discovery of the "W and Z particles, communicators of the weak interaction."

Origins CERN

exploratorium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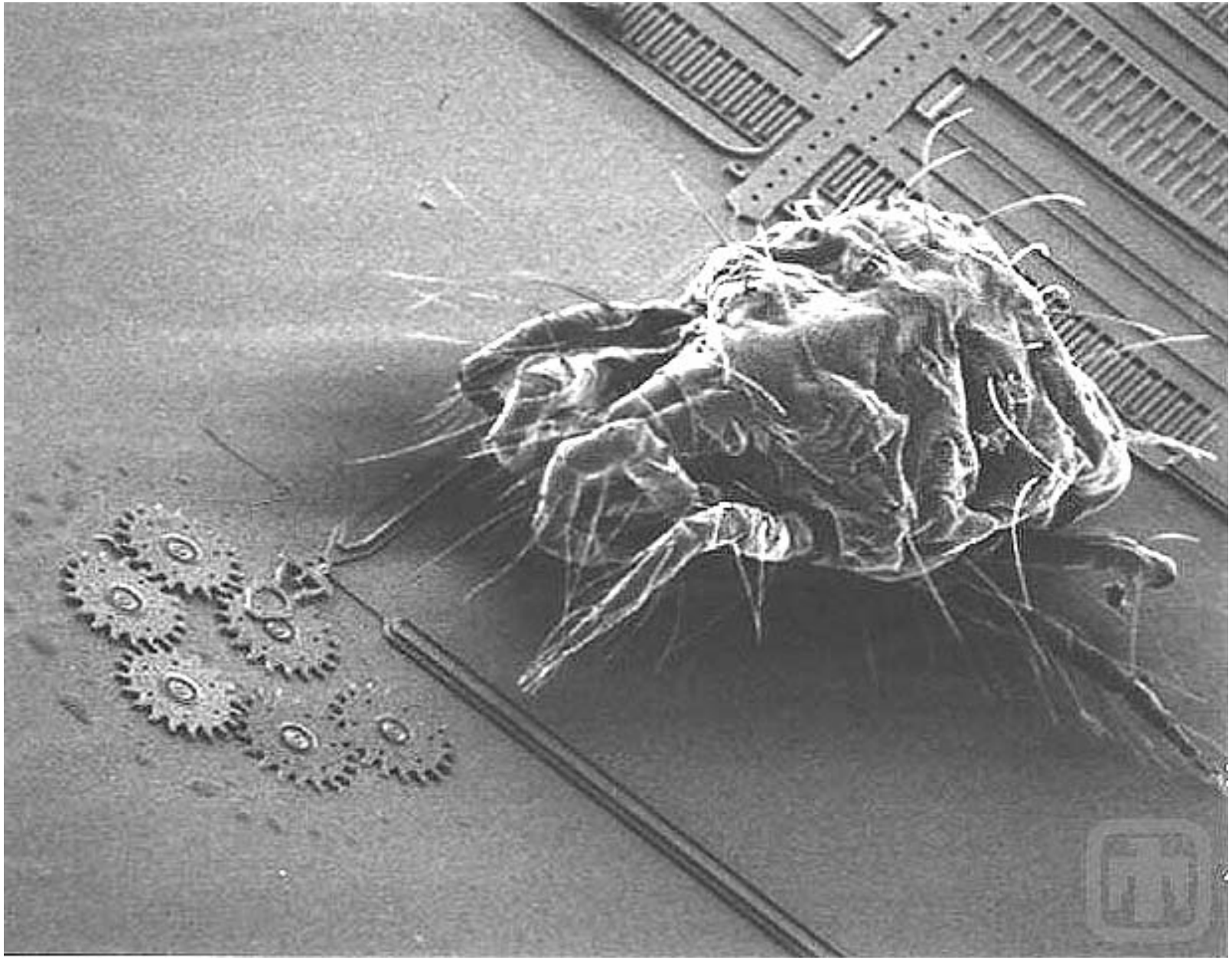
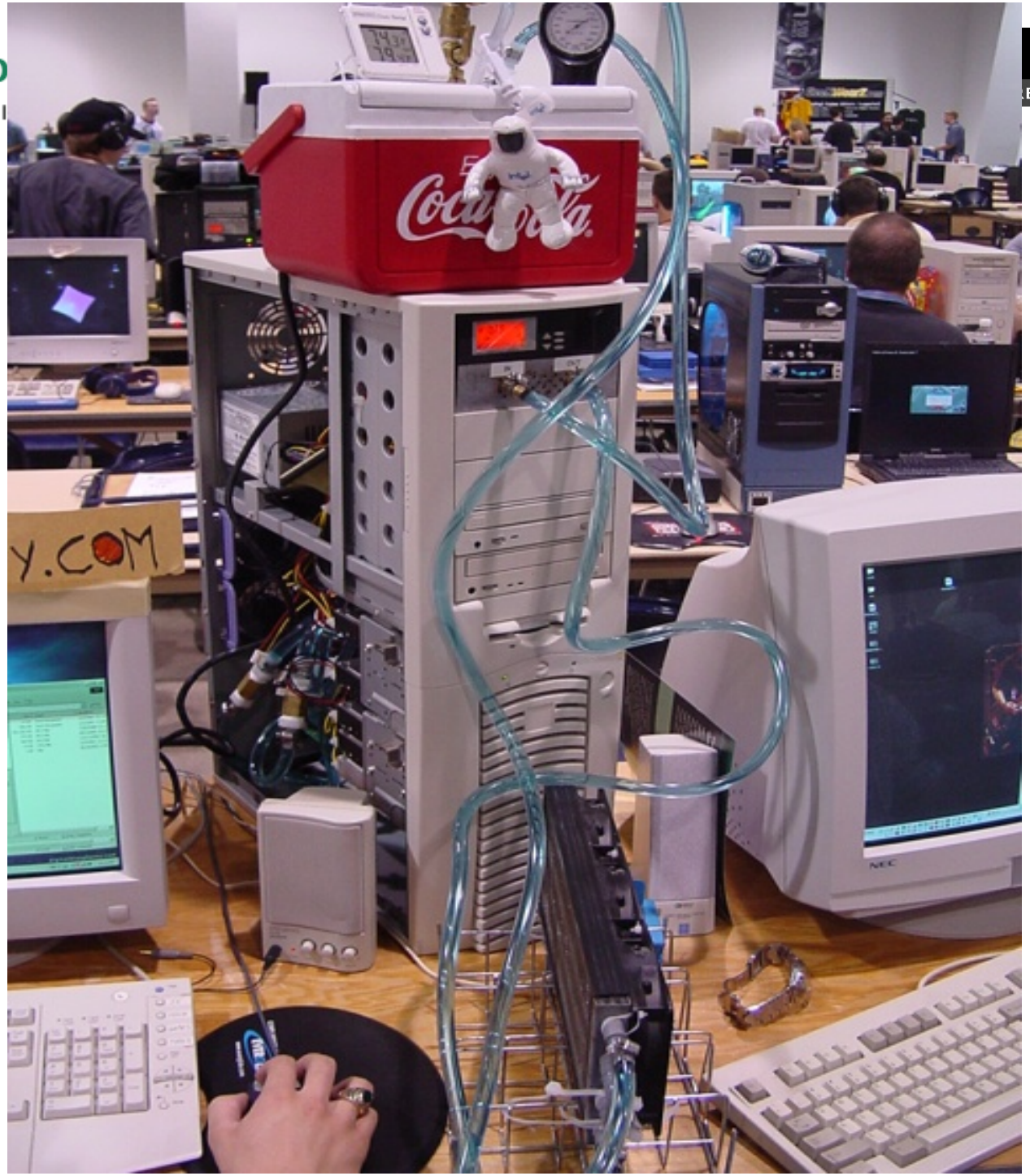


Hot Rod Computing Culture

- Examples of “open hardware” mods applied to realize a *hot rod* PC (for computer game playing)
- Venue for hot rod PCs: QuakeCon
  - QuakeCon2002 LAN party w/>1700 PCs
  - QuakeCon2003 LAN party w/>3200 PCs
- Other large LAN parties appearing as meeting place for hot rod PCs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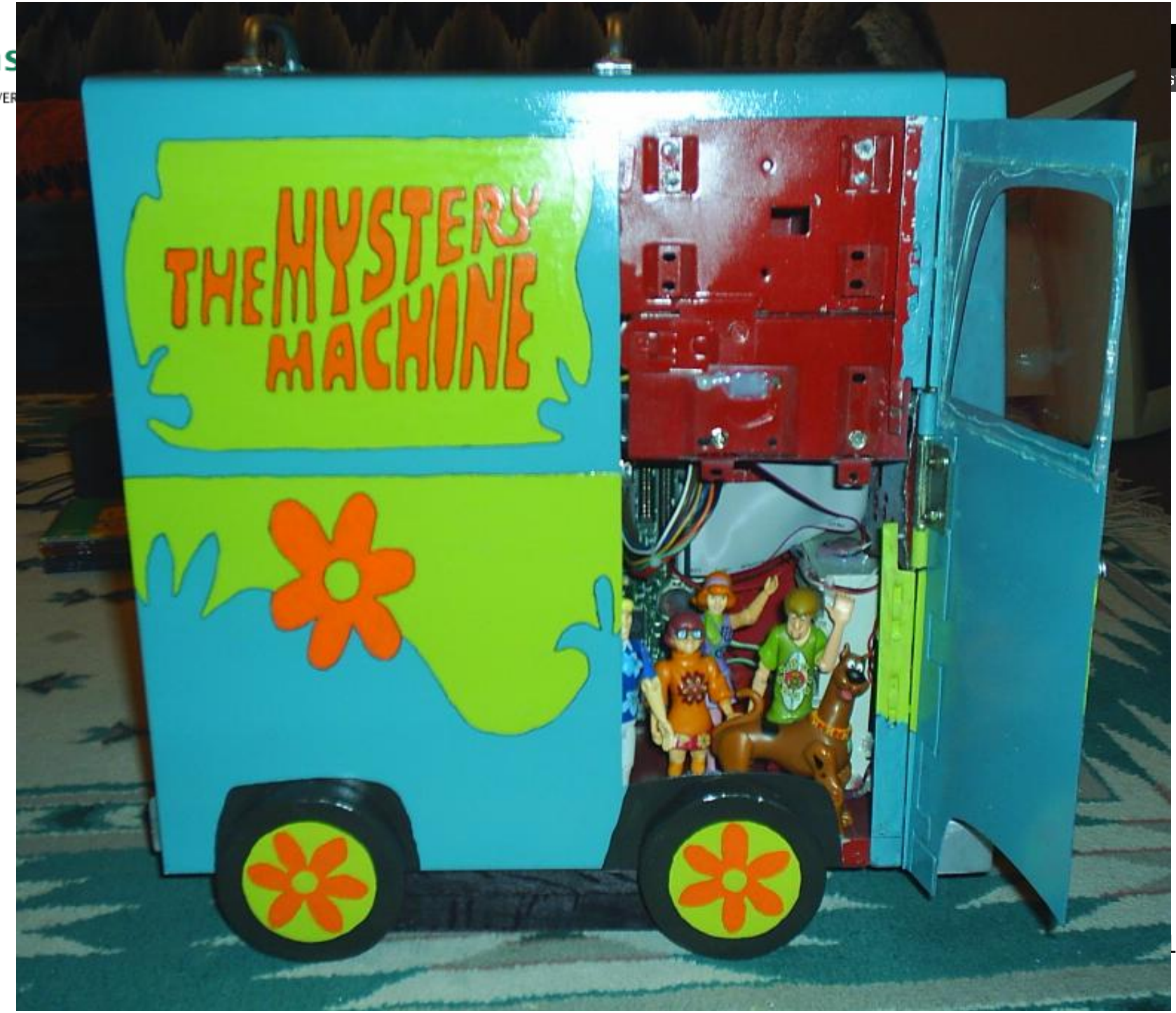
THE MYSTERY MACHINE

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QuakeCon on TV again!
QuakeCon will be hitting the small screen once again! Starting today and running throughout the week G4 - TV 4 Gamers will be running a show with heavy focus on QuakeCon 2002. The show is called Pulse, and you can get more information and peruse the schedule on this page here. G4 is available to many satellite and digital cable subscribers.
9:56PM EDT, 8.25.2002 -Nok
www.quakecon.org
New movie
I was just sent a cool new addition to the QuakeCon 2002 video library. The employees of Netzone Centers in Houston have put together a 7 minute, 24mb video of the event. It chronicles their trip to Mesquite and the excitement they found there. Go watch it now!
The camera men/editors are red.falcon (Lawrence Johnson), Lightning Quick (Josh Garcia), Warrenkreuk (Warren Akhtar), and Wolfwood (Brian Buffington)
Good work guys!
QuakeCon 2002 is brought to you by:
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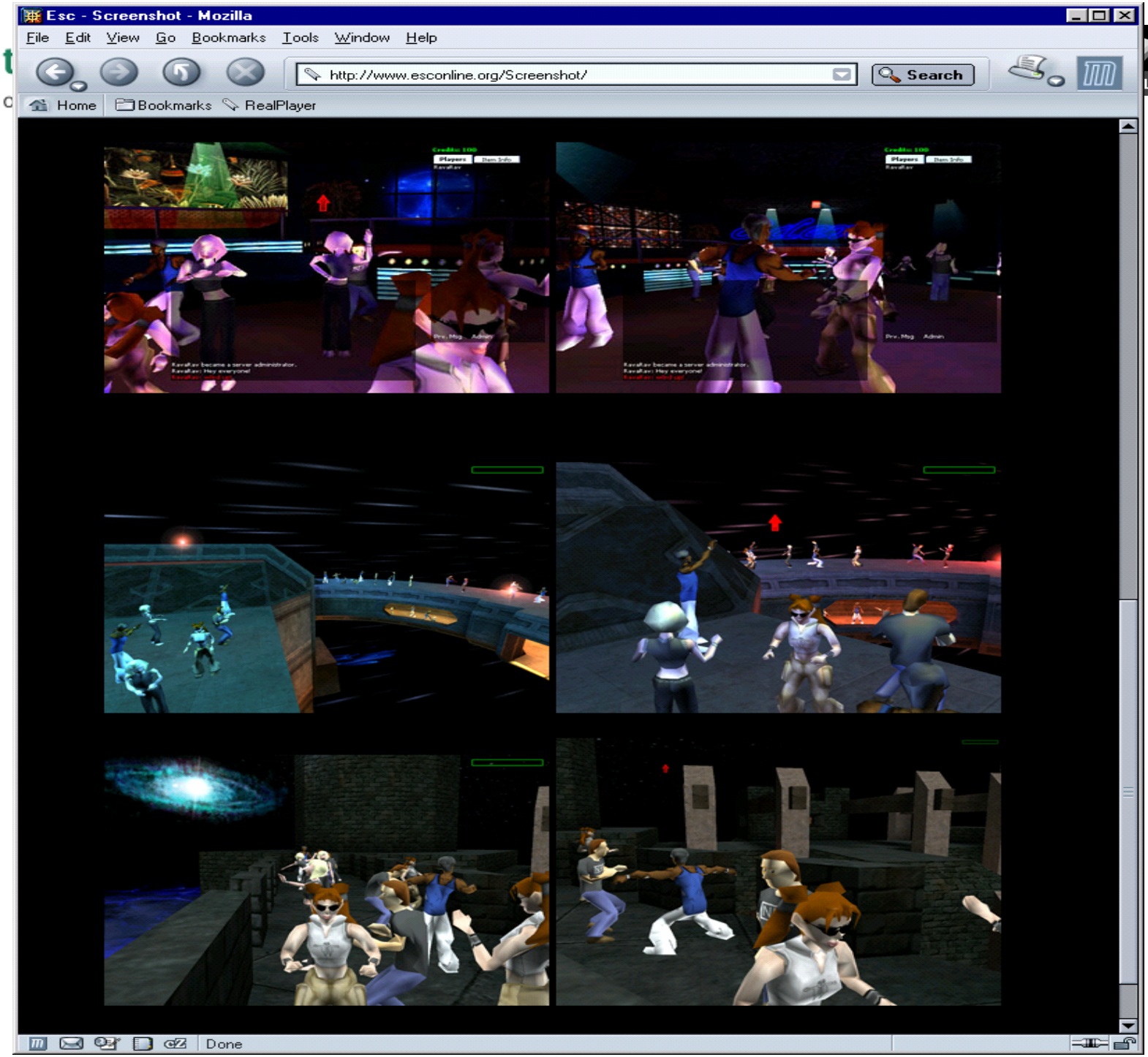

Related Research

- Free/Open Source Software Development
- *Fifth* most popular area for F/OSSD with >10,000 projects on SourceForge.org
- Tools, techniques, and concepts for
  - Game development (e.g., game modding)
  - F/OSSD, and
  - Emerging game grid domains (physical sciences, nanotechnology, visual/performing arts, massively multi-participant worlds for living narratives, GameCons, etc.)

  can be brought together for mutual benefit.

Conclusions

- We find F/OSSD is helping to drive computer game culture and technology
- We seek to break down barriers between art, science, technology, culture through computer games, game environments, and experiences
- We seek to create a new generation of informal learning tools and techniques, together with a global community of developers and users, through a massively shared, participatory computing grid.

Further information

- UCI Game Lab: www.ucgamelab.net
- Game Research Grid: visservices.npaci.edu/gaming/gridsite/

- W. Scacchi, Free/Open Source Software Development Practices in the Computer Game Community, *IEEE Software*, 21(1), 59-67, January/February 2004.

http://www.ics.uci.edu/~wscacchi/Papers/New/FOSS-DevelopmentPractices.pdf

- W. Scacchi, When Worlds Collide: Emerging Patterns of Intersection and Segmentation when Computerization Movements Interact, working paper, presented at the Social Informatics Workshop, March 2005.

http://www.ics.uci.edu/~wscacchi/Papers/New/OSS-Game-Worlds-Patterns.pdf