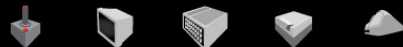


# *Computer Games, Open Source Software, and other Socio-Technical Processes*

Walt Scacchi  
Institute for Software Research  
and

Game Culture and Technology Laboratory  
University of California Irvine  
Irvine, CA 92697-3425 USA

<http://www.ics.uci.edu/~wscacchi>



GAME CULTURE & TECHNOLOGY LAB



[unrealtournament.com](http://unrealtournament.com)



**BACK**

**NEXT**



## SEARCH

Here...

Select Option...

Player

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CSports Radio  
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Top Games  
Top Mods  
Top Players  
Top Clans  
Top Maps  
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CSports.net

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CPL Rankings

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## GET THE MOST FROM CSPORTS.NET:

- UNRESTRICTED ACCESS
- NO PROGRAMMED DELAYS
- CUSTOMISABLE ENTRY PAGE
- RANK BANNERS
- CLAN RANK BANNERS
- HARDWARE AND SOFTWARE DISCOUNTS
- PRIORITY SERVICE
- MINI CLAN LADDERS
- BUDDY LISTS
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THE WAY IT IS SUPPOSED TO BE.**

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Forum

Offers



**Vibration is**

## Welcome to CSPORTS.net

### Worldwide Rankings and Stats

Welcome to the most comprehensive ranking and stats system in the world for online gamers. From Half Life to Battlefield:Vietnam, CSports.net tracks the performance of individuals, clans and games providing definitive worldwide rankings. To find out how good you are just use the quicksearch tool at the top of the menu.

### Optimal Online Gaming

We provide a suite of tools to help you get more from your online gaming. Rank freezing, buddy tracking, a customisable home page, ranking banners and much more. Do you perform better than your buddies? Find players and where they play and much more. Check out the features below.

## CSPORTS.net News

[Update: What did we do? Where do we stand?](#)

[Most Slots: Battlefield holds the crown!](#)

[Diary from Iraq: Part 1](#)

[Pandora Studios Interview](#)

[UT 2004: Mods Stats Analysis](#)

[Star Wars Battlefront 2: Double Review Special](#)

[Vietcong 2 put to the test](#)

[Fatal1ty special by Tim Casey](#)

## CSPORTS.net Stats

All-time Player Names	625,564,007
Active Players	22,547,342
Player Hours Today	2,655,571
Players Online Now	229,873
Servers Online Now	106,563
Modifications Recorded	3,259
Maps Recorded	726,140
Registered Members	183,606



The Unreal Engine  
Documentation Site

Wiki Community  
Topic Categories  
Image Uploads  
Random Page  
Recent Changes  
Offline Wiki

Unreal Engine  
Console Commands  
Terminology  
FAQs  
Help Desk

Mapping Topics  
Mapping Lessons  
UnrealEd Interface

UnrealScript Topics  
UnrealScript Lessons  
Making Mods  
Class Tree

Modeling Topics

Chongqing Page  
Log In

## The Layman's Guide to Making Mods

If you are thinking about making a mod (for any game) and are not sure what you need to know, how to go about it, or simply want to avoid the most obvious mistakes then read on. The pages linked to below contain some excellent advice, and possibly comments on stuff that hadn't occurred to you.

- [/My Team Your Team](#) – Introduction and disclaimer for all those, "what's all this my team your team crap?" readers.
- [/Why Are You Making A Mod](#) – Sometimes the reason a mod fails is the reason you started it in the first place.
- [/Building a Team](#) – Building up your mod team.
- [/Despotism Or Communism](#) – Some thoughts on team structure.
- [/Working as a Team](#) – The day to day life of a team.
- [/Asset Management](#) – How to manage the assets of your mod (code, textures, models, etc).
- [/Distributed Development](#) – Find out how hard and unpleasant distributed development can be.
- [/Effective Testing](#) – How to get the most out of testing your mod.
- [Releasing A Mod](#)
- [/Supporting Your Mod](#) – Easing the burden of mod support.
- [/Mod Death](#) – What happens when a mod or mod team self destruct and how to cope.

## Thoughts on Mod Making

Several of the Unreal Wiki's contributors have experience in creating successful mods. Reading their accounts of their work and their advice is recommended.

- [Mychaeel/Mod Startups](#) – Making your idea a reality.
- [Mychaeel/Modding Etiquette](#) – How to make people like your mod.
- [Jb](#) – an analysis of the ChaosUT mod's history
- [Piglet/Finishing Things](#) – How to actually finish your mods, that said it's more how to **start** so that you **can** finish.
- [A Bug's Life](#)
- [GODZ Inception](#) – a journal of how GODZ started.
- [Making Mods/General Mod Optimization](#) – Common mistakes and ignored settings which often lead to lower performance – and how to fix/use them.



DEAD\*mlkay2812 : vite ds\_bargel

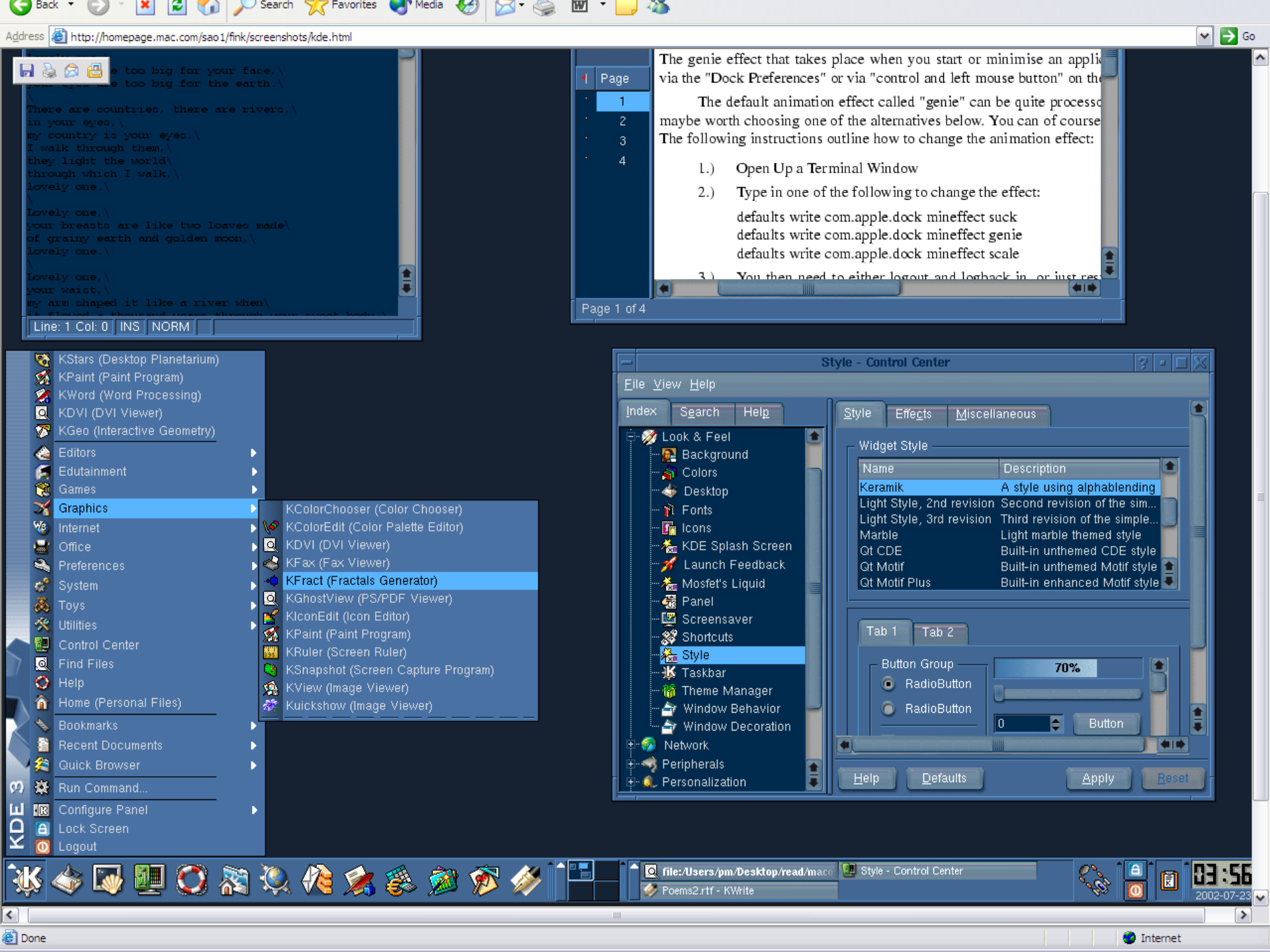
Cooler Rupture M00 Carles FF 1.3> Ah!VS Sorry mlkay2812, that map isn't on the server.

DEAD\*Walmart alert Bob : vite











SF.net » Projects » Software Map

## Software Map Topics

Welcome to the Software Map. The Software map will help you quickly navigate around the thousands of projects hosted on SourceForge.net. To use the Software Map, simply click on one of the popular Topics displayed. Once you're browsing a particular topic, you'll be able to easily filter, sort and search your project list.

- Enter Here to Research Featured Solutions -



### Clustering (514)

Most downloaded: [jBpm.org - java Business Process Mgmt](#)  
Most active: [openQRM](#)

### Database (7033)

Most downloaded: [phpMyAdmin](#)  
Most active: [KeePass Password Safe](#)

### Desktop (3821)

Most downloaded: [GnuWin32](#)  
Most active: [KeePass Password Safe](#)

### Development (28636)

Most downloaded/active: [Gaim](#)

### Enterprise (2088)

Most downloaded: [wxPython](#)  
Most active: [ADempiere Bazaar](#)

### Financial (2230)

Most downloaded: [Compiere ERP + CRM Business Solution](#)  
Most active: [ADempiere Bazaar](#)

### Games (17524)

Most downloaded: [ZSNES](#)  
Most active: [Arianne RPG](#)

### Hardware (1877)

Most downloaded/active: [StepMania](#)

### Multimedia (15738)

Most downloaded: [VirtualDub](#)  
Most active: [Inkscape](#)

### Networking (5219)

Most downloaded/active: [FileZilla](#)

### Security (3314)

Most downloaded: [WinSCP](#)  
Most active: [KeePass Password Safe](#)

### Storage (2588)

Most downloaded: [7-Zip](#)  
Most active: [FreeNAS](#)

### SysAdmin (3759)

Most downloaded: [TightVNC](#)  
Most active: [phpMyAdmin](#)

### VoIP (422)

Most downloaded: [trixbox \(formerly asterisk @ home\)](#)  
Most active: [1videoConference](#)

### Display All »

View all of the topics in the Software Map



WHEN YOU PROGRAM OPEN SOURCE,  
YOU'RE PROGRAMMING  
**COMMUNISM**



A REMINDER  
*from*  
YOUR FRIENDS AT MICROSOFT

# What is free/open source software development?

- Free (as in “freedom”) vs. open source
  - Freedom to access, browse/view, study, modify and redistribute the source code
  - Free is always open, but open is not always free
- F/OSSD is not “software engineering”
  - *Different*: F/OSSD can be faster, better, and cheaper than SE in some circumstances
- F/OSSD involves *more* software development tools, Web resources, and personal computing resources



# OSS Development Models

- Free Software (GPL)
- Open Source (BSD/MIT, Mozilla, Apache)
- Corporate Source (Hewlett-Packard)
- Consortium/Alliance (OSDL, SugarCRM)
- Corporate-Sponsored (IBM-Eclipse, Sun-Netbeans, Sun-OpenOffice, HP-Gelato)
- Community Source (Sakai, Westwood)
- \*Shared Source (Microsoft)

# OSSD Project Characteristics

- OSS Developers are always users of what they build, while OSS users (>1%) are also OSS developers
- Requires “*critical mass*” of contributors and OSS components connected through socio-technical interaction networks
- OSSD projects emerge/evolve via *bricolage*
  - Unanticipated architectural (de)compositions
  - Multi-project component integrations
- OSSD teams use 10-50 OSSD tools to support their development work



# OSSD Project Characteristics

- Operational code early and often--actively improved and continuously adapted
- *Post-facto* software system requirements and design
  - OSSD is not Software Engineering
  - OSSD has its own “-ilities” which differ from those for SE
- *Caution*: the vast majority of OSSD projects fail to grow or to produce a beta release.

# F/OSS Processes for Requirements or Design

- F/OSS Requirements/Designs
  - not explicit
  - not formal
- F/OSS Requirements/Designs are embedded within “informalisms”
  - Example OSS informalisms to follow (as screenshot displays)
- F/OSS Requirements/Design processes are different from their SE counterparts.



# Evolutionary redevelopment, reinvention, and redistribution

- A major recurring evolutionary dynamic of F/OSSD is *reinvention*
  - Reinvention enables continuous improvement
- F/OSS evolve through continuously emerging mutations (incremental innovation/adaptation)
  - Expressed, recombined, redistributed via incremental releases

# Evolutionary redevelopment, reinvention, and redistribution

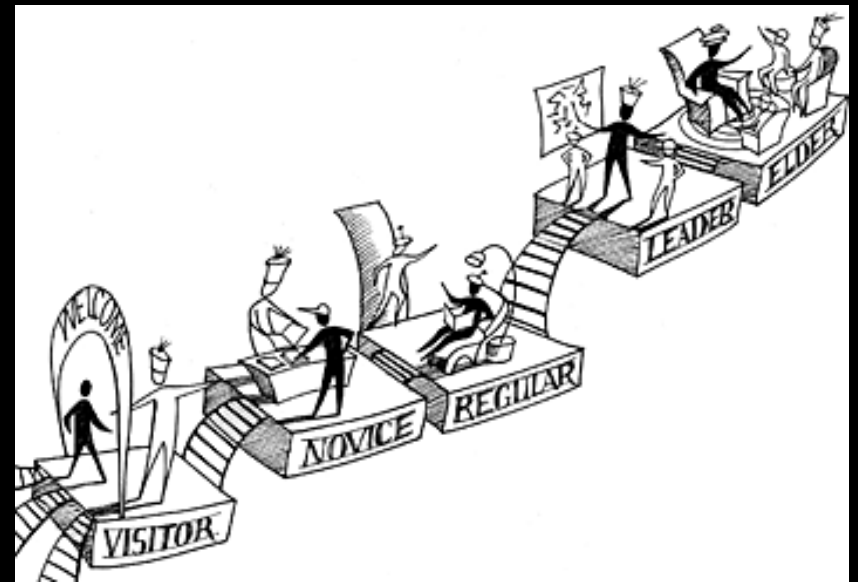
- F/OSS systems *co-evolve* with their development community
  - Success of one depends on the success of the other
- Closed legacy systems may be *revitalized* via opening and redistribution of their source
  - When enthusiastic user-developers want their cultural experience with such systems to be maintained.

# Project management and career development

- F/OSSD projects self-organize as a *meritocratic role-hierarchy* and *virtual project management*
  - Meritocracies embrace incremental innovations over radical innovations
  - VPM requires people to act in leadership roles based on skill, availability, and belief in project community
- F/OSS developers want to learn about new stuff (tools, techniques, skills, etc.), have fun building software, exercise their technical skill, try out new kinds of systems to develop, and/or interconnect multiple F/OSSD projects (*freedom of choice and expression*). <sup>17</sup>



# A pyramid (or core-periphery) meritocracy for F/OSSD



MAIN

PC

PS2

DC

LINUX

MAC



# Unreal TOURNAMENT



## Latest News

[In the Press](#)

[Gallery](#)

[Gameplay](#)

[Tips & Tricks](#)

[Community](#)

[Behind the Scenes](#)

[Fan Alley](#)

[Downloads](#)

[Game Help](#)

[Editing & Scripting](#)

[European Web Site](#)

### latest news announcements

- » New Maps by BadKarma
- » Pearman Alpha Released
- » Unreal Engine News for July 2001
- » Community Spotlights

### latest file downloads

- » TouchSense Patch [260KB]
- » UT Patch v436 [7MB]
- » UT PS2 Footage [26MB]
- » UT Technology Movie [42MB]

## EDITING & SCRIPTING

The greatest thing about the Unreal Engine Technology which Unreal Tournament uses, is that you can actually create your own levels, mods, skins, models, and more; making for an endless amount of new things to play with, and new things to see. Heck, people even get hired for doing these things, so give it a shot, you just might like it.

Below are links to various sections which give some detail on where to learn about editing, as well as a few tutorials and downloads to help get you started. Good luck!

- [Editing Resources](#)

## Discussion

- » General
- » UT Matches
- » Rocket Arena
- » Chaos
- » Editing
- » Signup!

## What's Hot

- » LAN Parties
- » Events
- » Buy It



INFOGRAMES



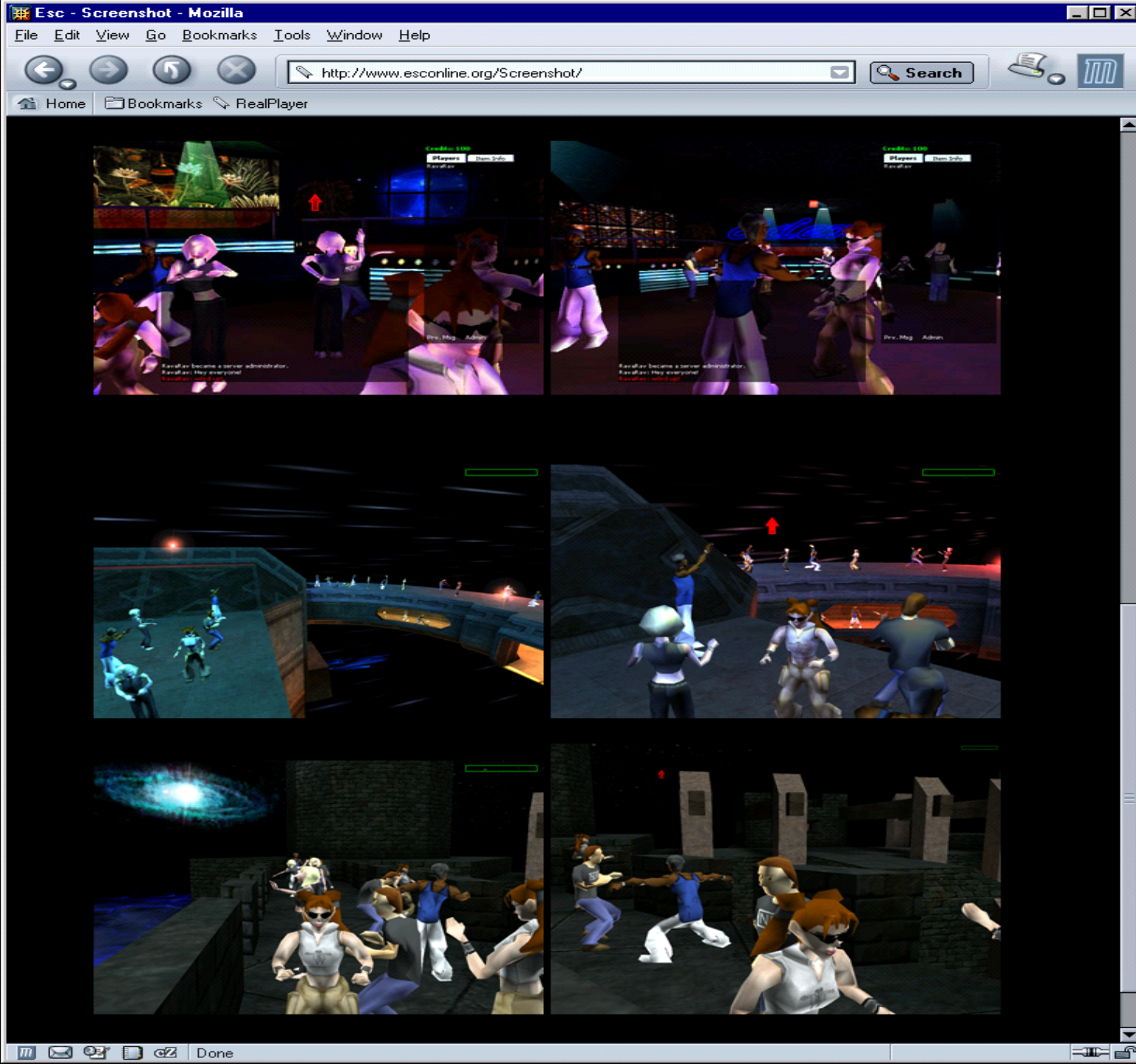
# Socio-technical and reproductive cultural processes

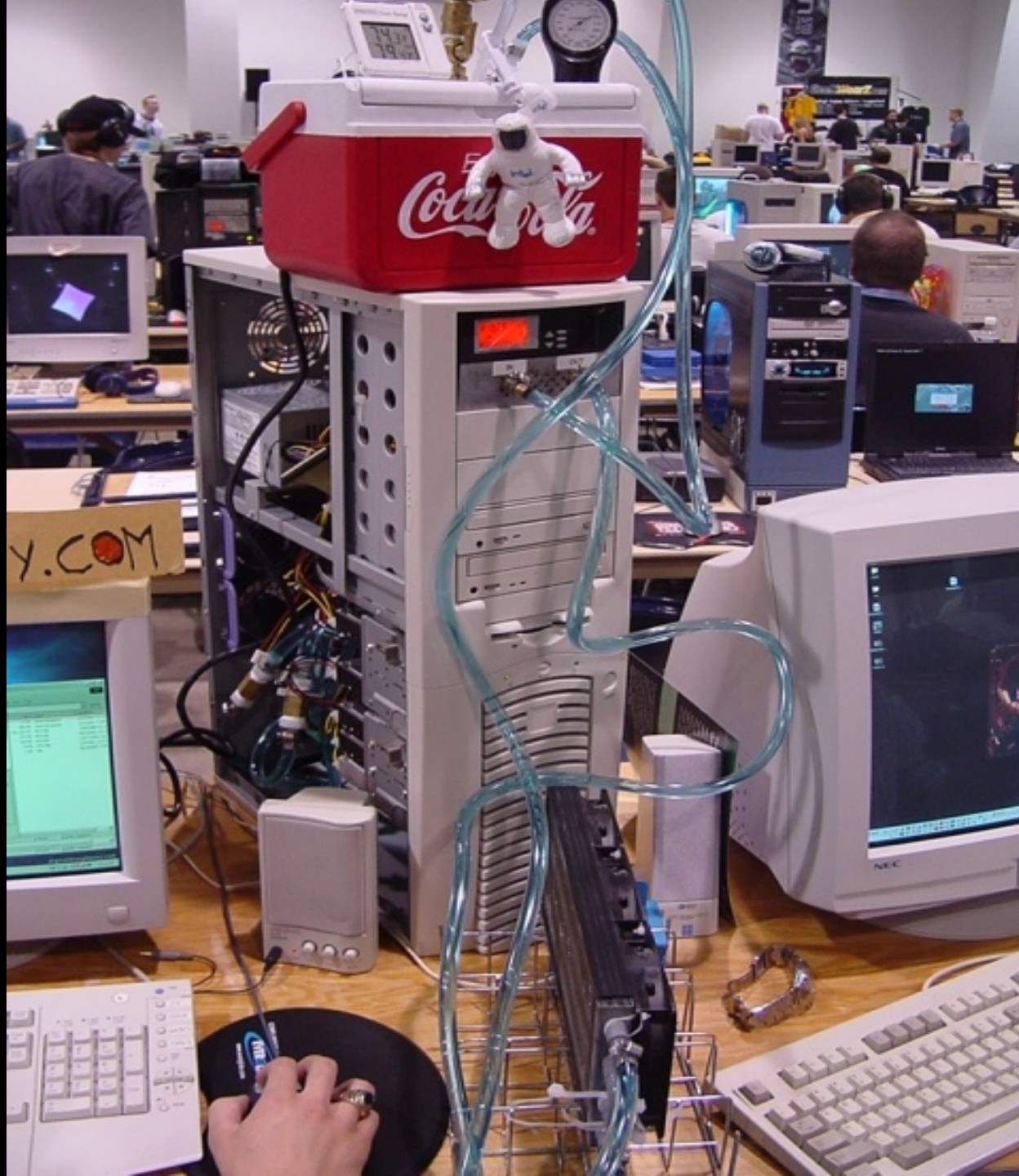
- New processes under study
  - *Joining and contributing to a project in progress*
  - *Role-task migration: from project periphery to center*
  - *Alliance formation and community development*
- Independent and autonomous project communities can interlink via social networks that manipulate objects of interaction
  - Enables possible exponential growth of interacting and interdependent community as *socio-technical interaction network*
  - Computer game world is *a social movement that can interact with other social movements*

# Emerging game-related open source topics

- visual and performing arts
  - Games as cultural media
- humanities and social sciences
  - Games as graphic narratives for storytelling; *machinima*—game-based cinema
- alternative game cultures and venues
  - “hot rod” game machines, LAN parties, and *GameCon*’s
- science and technology education
  - Games for informal education in science











# Fa "BIG DADDY" Roth

His Life, Times, Cars, and Art











# OVERMODS



[:: Accueil ::](#) [:: Votre Compte ::](#) [:: Les Mods ::](#) [:: Liens Web ::](#) [:: Forum ::](#) [:: Archives ::](#)

[< [Accueil de la Galerie](#) | [TOP 10](#) | [Proposer un Média](#) >]

261 Images

[Accueil de la Galerie](#) >> [Vos mods](#) >> [Amadeus](#) >> AMADEUS::mod

<< [Image Précédente](#) | [Image Suivante](#) >>

**AMADEUS::mod**  
[535 x 415 jpg]

Proposée par [arsenelupin](#)

Ajouté le 08 Feb 2003

Clics 111

Votes 7

Note 8.71429

10 [voter](#)

[Imprimer ce Média](#)



Description

mon nouveau PC tuné : un Piano à Queue... en hommage à Mozart pour tout le descriptif aller voir mon site <http://www.chez.com/designperso/> coût : -60euros -4mois de développement -pièces de récupération -600 heures de travail et de patience -design exclusif ...original et pratique :) BON surf (arsenelupin) il n'ya que 2 photos j'espère plus à l'avenir

Commentaire(s) Posté(s)















# Informal Science Education and Science Learning Games

- Science Games
- (Mechanical) Systems Engineering Game
- Dinosaur and Life Science Game
  - Physical game linked to online/virtual game
  - Venue for action research



PLAY SCIENCE  
GAMES NOW!

# Kinetic City

MISSION TO VEARTH

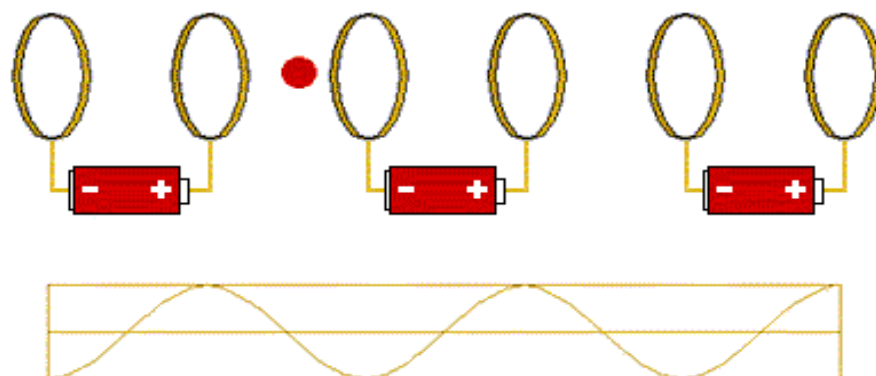
WHAT IS  
KINETIC CITY ?

*THE MOST AMAZING SCIENCE  
SITE ON THE INTERNET !*



## 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."

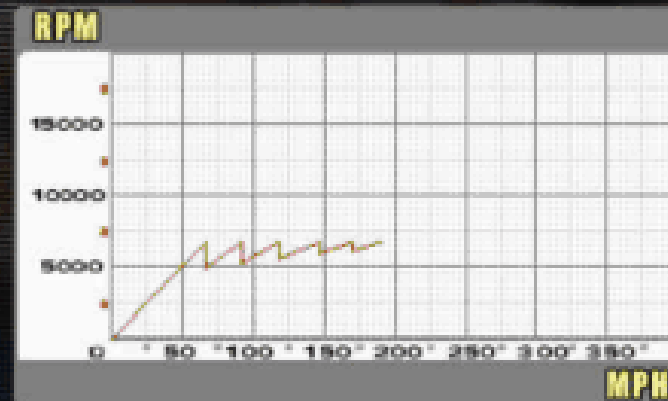


# STRATEGY, GEARING AND BRAKES

tyres	Medium
starting fuel	17.2 gal (9 Laps)
# of steps	3
1st step	17.2 gal (9 Laps)
2nd step	17.2 gal (9 Laps)
3rd step	17.2 gal (9 Laps)
weight dist.	40.0:60.0
steering lock	20.0 Degrees
rev limit	6700
radiator opening	4
engine temp	-460 F.
1st gear	16/40 (7.708)
2nd gear	19/35 (5.630)
3rd gear	23/33 (4.424)
4th gear	26/30 (3.558)
5th gear	28/28 (3.083)
6th gear	29/26 (2.764)
final	12/37 (Bevel 1/ 1)
reverse	16/40 (7.708)
diff lock	20%

brake bias 65.0:35.0  
brake duct 4

-460 F.	front brake disc temp	-460 F.
0.00 in	brake wear remaining	0.00 in
left		right
-460 F.	rear brake disc temp	-460 F.
0.00 in	brake wear remaining	0.00 in



## Indianapolis

**FOCUS AREA**   **[Advanced] - Bumper Velocities**



# Science Learning Games

- Physical interaction quest environment: *DinoQuest*
  - Life-size dinosaurs (e.g., 120' Argentinosaurus)
  - Gesture-based, embedded electronic media activation (via user IR wand)
- Online science games: *DinoQuest Online*
  - Addressing CA science education standards for K-6
  - Content and API-level interoperation with *DinoQuest*
  - DSC Goal: migrate to MMOSLG
- DSC planning new SLG exhibits through 2010
  - >\$35M investment
  - DSC developing network of three more DSCs (Korea, Turkey, Irvine)



# Summary observations

- 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 open source 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 collaborative learning environments.

# Further information

- ISR OSS Research site:  
[www.isr.uci.edu/research-open-source.html](http://www.isr.uci.edu/research-open-source.html)
- UCI Game Lab: [www.ucgamelab.net](http://www.ucgamelab.net)
- W. Scacchi,  
[Free/Open Source Software Development Practices in the  
, \*IEEE Software\*, 21\(1\), 59-67, January/February 2004.](#)
- W. Scacchi,  
[When Worlds Collide: Emerging Patterns of Intersection :  
, working paper, presented at the  
\*Social Informatics Workshop\*, March 2005.](#)



# Acknowledgements

- Mark Ackerman (UMichigan), Margaret Elliott (ISR), Les Gasser (UIUC), Chris Jensen (ISR), Robert Nideffer (UCI Game Lab), John Noll (Santa Clara U), Celia Pearce (UCI Game Lab), also others at ISR and UCI Game Lab.
- Research grants from the National Science Foundation (*no endorsement implied*) #0083075, #0205679, #0205724, and #0350754.
- Discovery Science Center, Santa Ana, CA
- UC Humanities Research Institute
- Digital Industry Promotion, Daegu, Korea
- California Institute of Telecommunications and Information Technology (CalIT2)
- Creative Kingdoms Inc.