



Program Executive Office for Simulation, Training & Instrumentation

Game Innovation VIII: Taking Game Technology Seriously

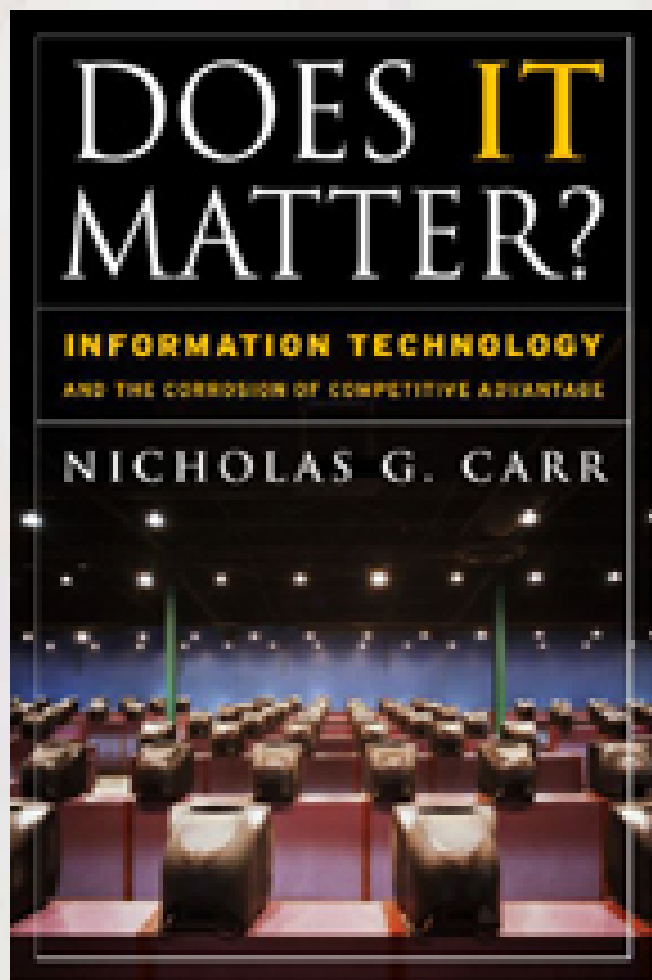
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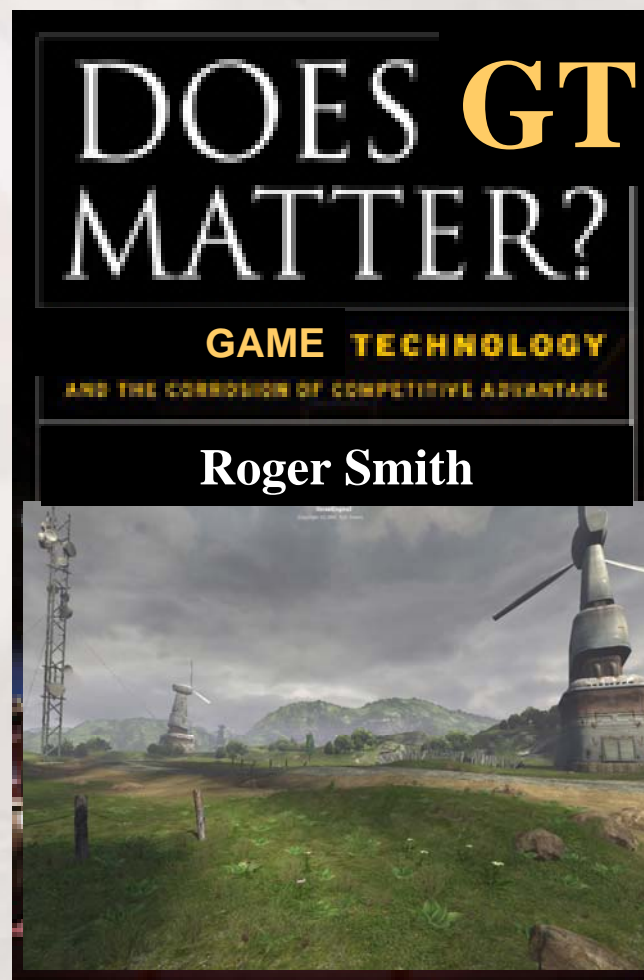




Does IT Matter?



Does GT Matter?



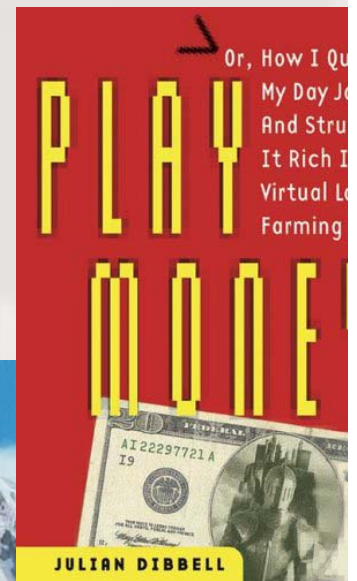


The Power of Play

“Play is to the 21st century what steam was to the 19th century” - Power that can be harnessed for social and economic benefits.

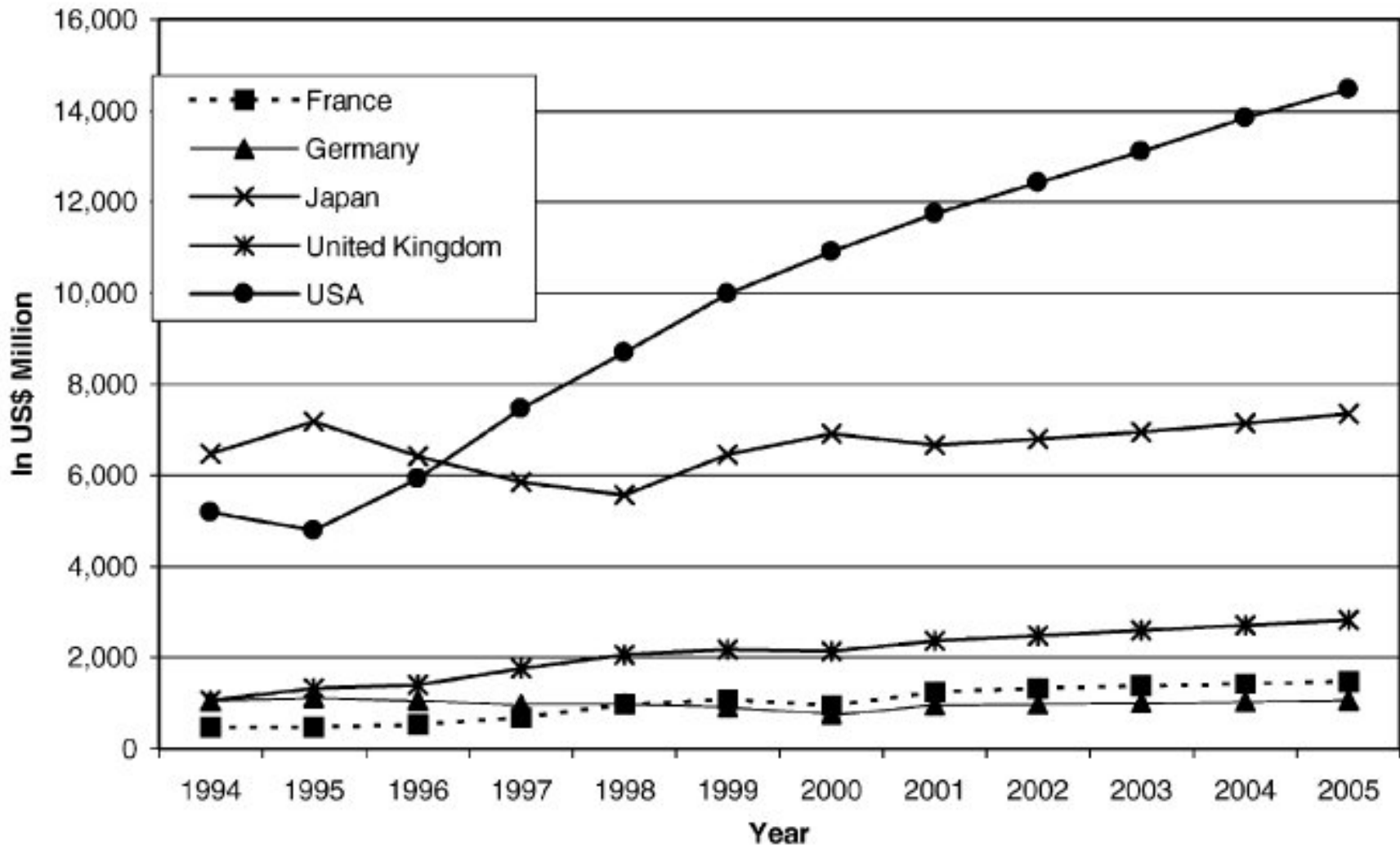


Julian Dibbell,
Play Money



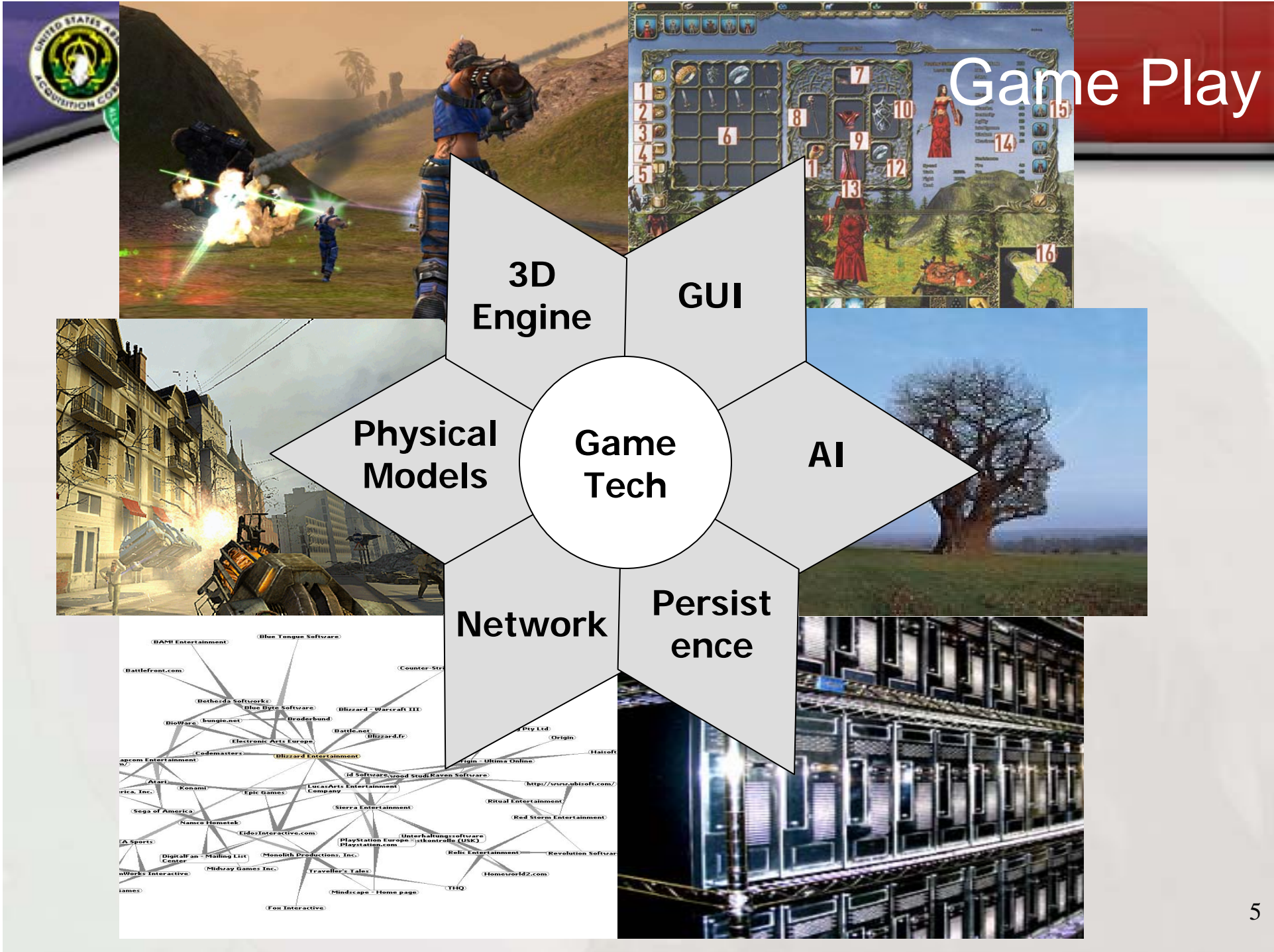


Computer Game Market



Source: Aoyama & Izushi, 2002

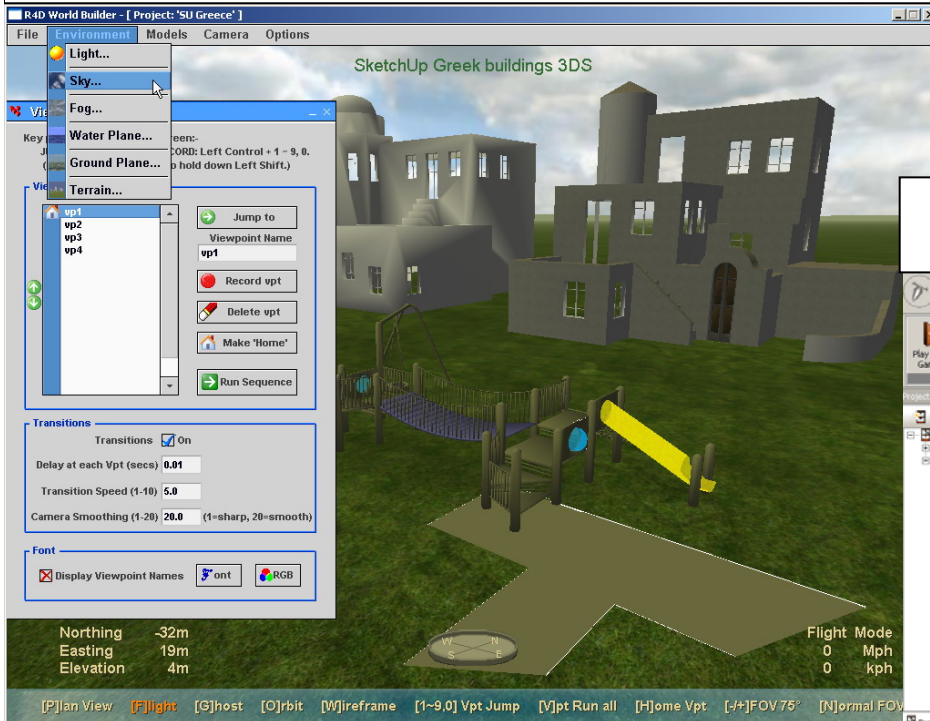
Game Play



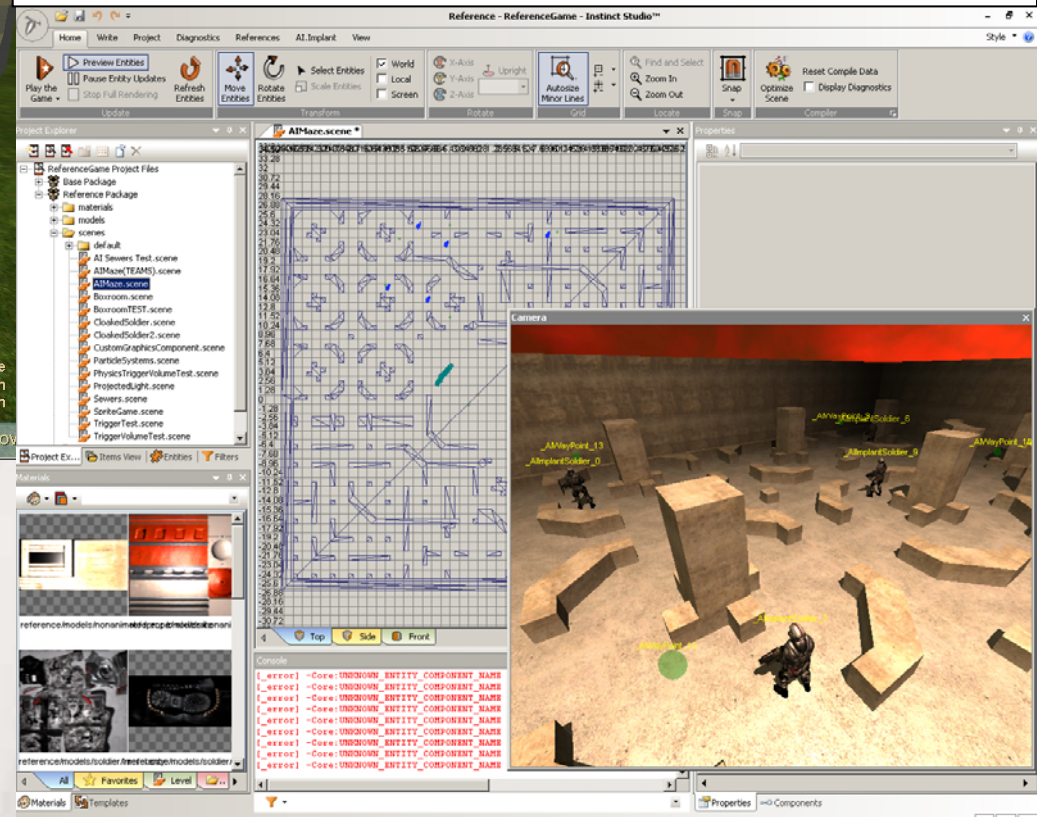


Pre-Game Technologies

World Building Tools



Behavior Scripting





Industries Adopting Game Tech

Military



Medicine



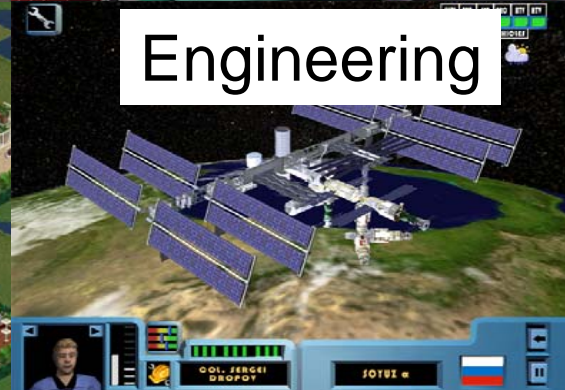
Emergency Mgt



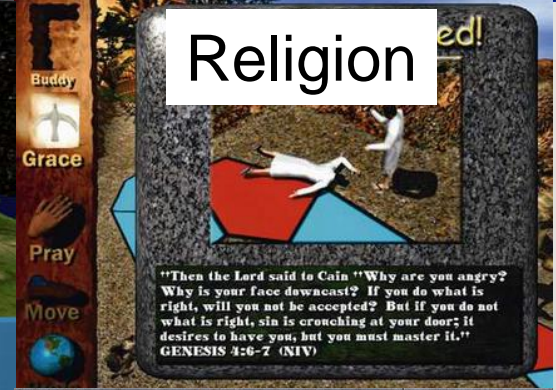
City Plan



Engineering



Religion



Space Explore



Machinima



Politics

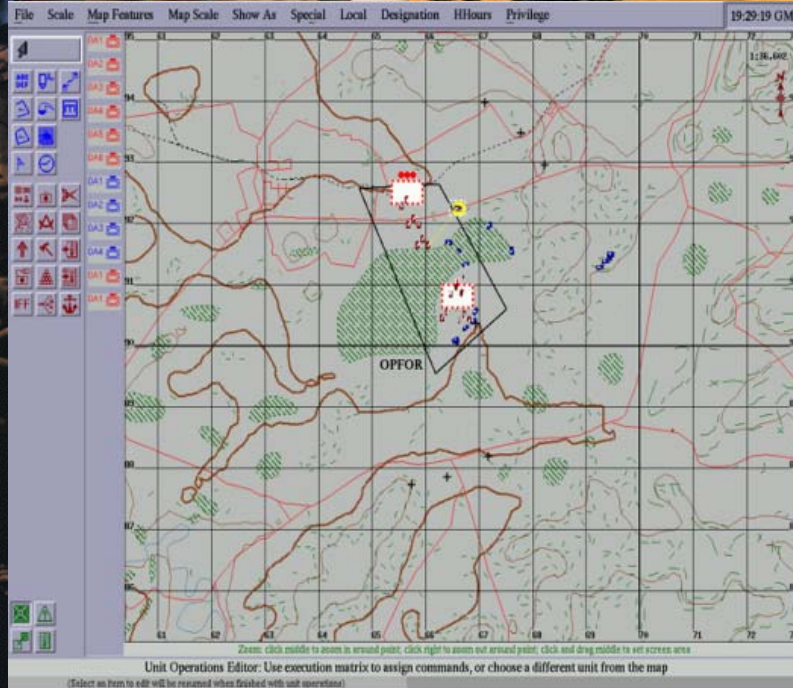
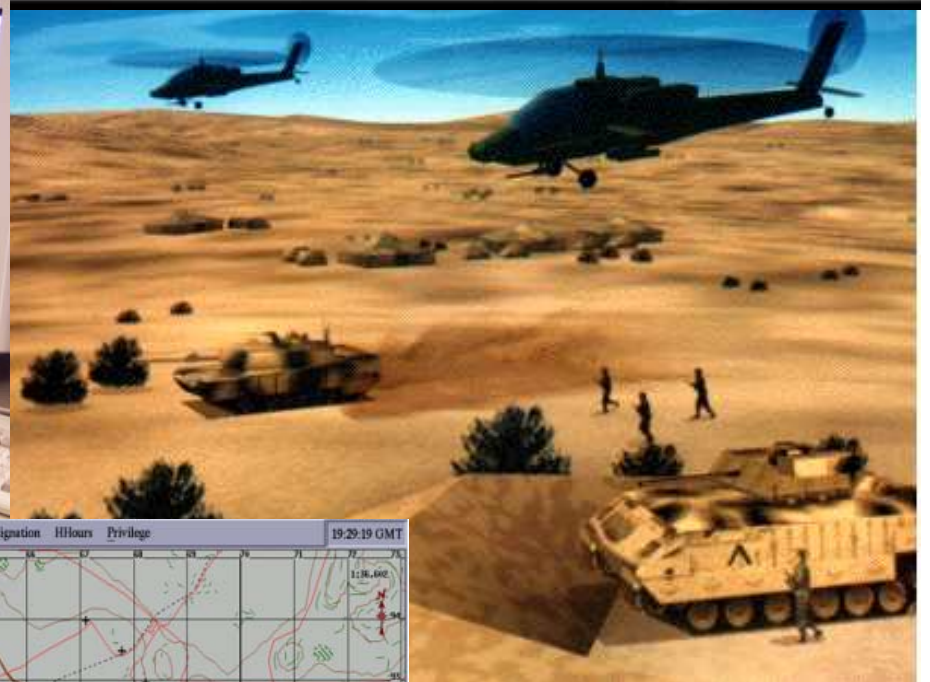




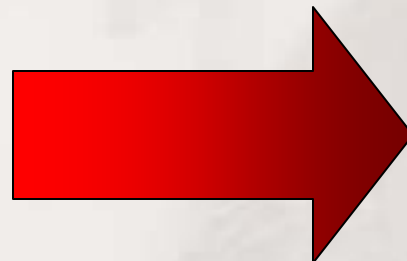
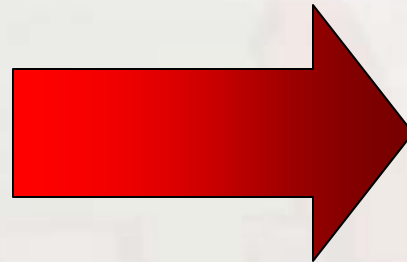
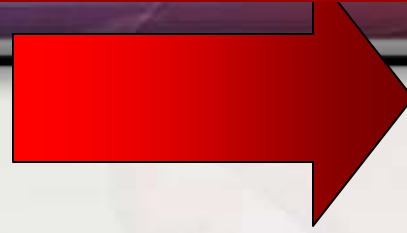
Industries Adopting Game Tech

Industry	Game Technology Impact
Military	Training soldiers and leaders in the tactics and strategies of war. Three dimensional modeling of equipment to illustrate or explore its capabilities.
Government	Ethics training for NASA. Project management training for the State of California.
Education	Augmenting classroom instruction in nearly every subject – English, math, physics, history, etc.
Emergency Management	Training emergency responders, firefighters, FEMA agents, and others to deal with disasters.
Architecture	Visually promoting major hotel, casino, and office spaces to potential clients.
City & Civil Planning	Lay out and experimentation with public services for a population of constituents.
Corporate Training	Orienting people to company products, facilities, and policies. Pilot and safety training.
Health Care	Educating patients on treatments, rehabilitation, and managing anxieties. The next generation of workout videos.
Politics	Presenting political issues and consequences of political decisions. Promoting candidates.
Religion	Interactive versions of sacred texts. Tools to teach religious history.
Movies & Television	Alternative form of storytelling known as “machinima”. Tools for creating animation and 3D worlds.
Scientific Visualization & Analysis	Rapid display of objects under experimentation and physical forces acting on them. 3D display of data collected and analyzed.
Sports	Recreate live sporting events for review and for prediction of potential outcomes. Rehearse for critical “one time” events like Olympic ceremonies. Fantasy sports leagues in 3D.
Exploration	Prepare missions for NASA Mars Lander. Recreate environments around deep sea probes.
Law	Illustrate crime scene activities for judge and jury. Analyze crime scene data.

Military Simulations



Game Adoption & Modification





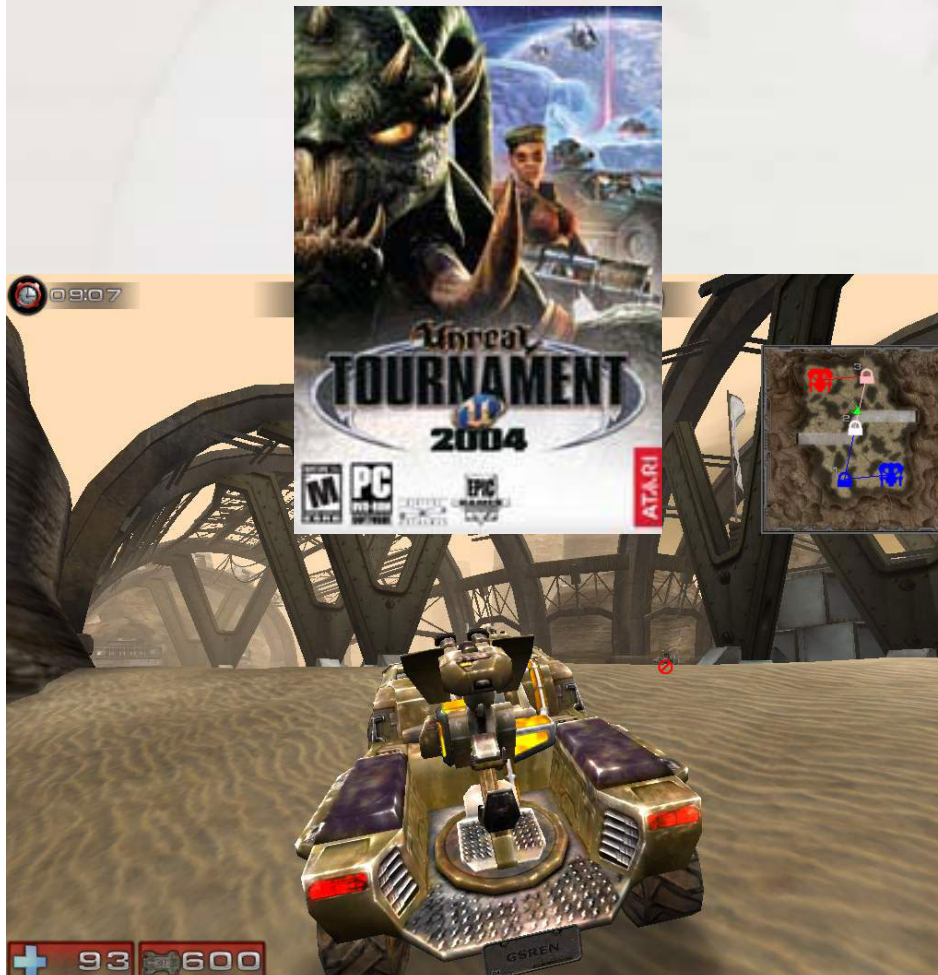
Phases of Military Game Adoption

- Off The Shelf (Falcon 4.0)
- Artist Mods (Marine DOOM)
- Model Mods (Americas Army)
- Full Game Development (Full Spectrum Warrior)
- Game Decomposition and Technology Application (Every Soldier a Sensor Sim)
- **Create Specialty Industry**



Incremental Innovation

“Build on and reinforce the applicability of existing knowledge.”
“Improving and exploiting an existing technological trajectory.”

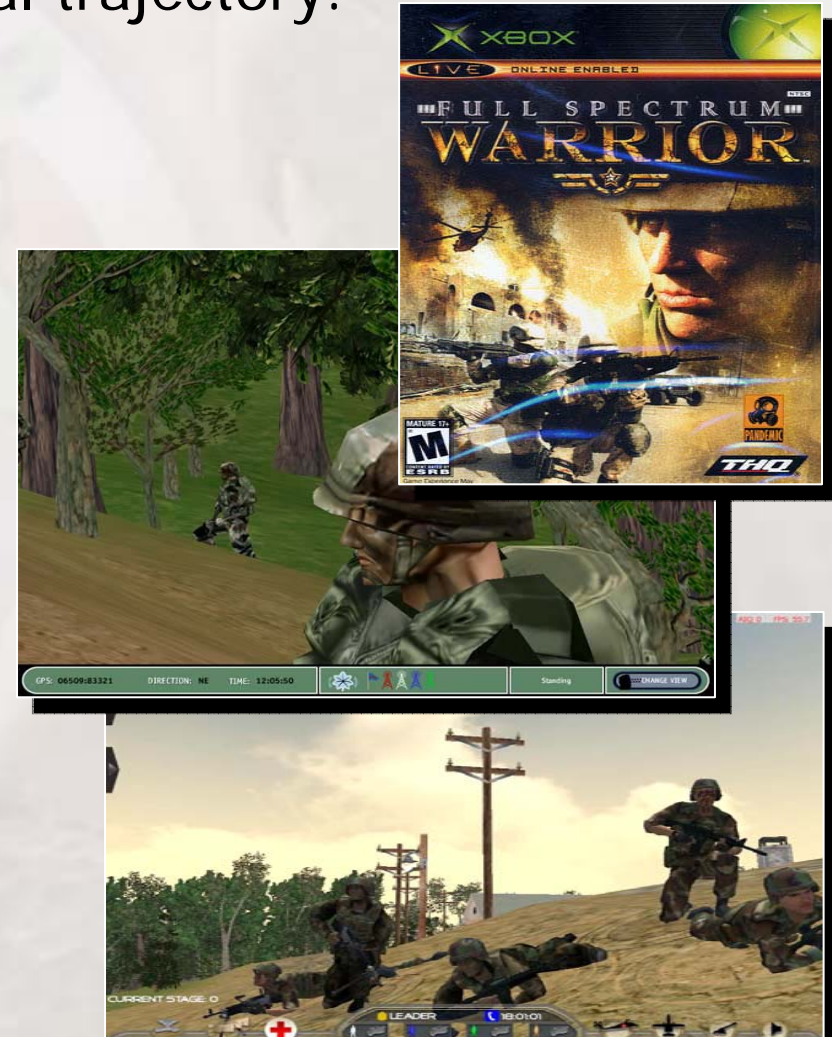




Radical Innovation

"Destroy the value of an existing knowledge base."

"Disrupt an existing technological trajectory."



The Long Tail

➤ Local Markets

- Physical products, delivery, and stocking
- Requires concentration into the “Top 100” products.

➤ Global Markets

- Digital products, instant delivery, and free stocking
- Allows diversification into the “Top 100,000” products.

How Endless Choice Is Creating Unlimited Demand

The Long Tail

← Enter

Why the Future of Business
Is Selling Less of More

CHRIS ANDERSON

“Anderson’s insights influence Google’s strategic thinking in
READ THIS BRILLIANT AND TIMELY BOOK
ERIC SCHMIDT, CEO, GOOGLE





Simulation/Game's Long Tail

Trigger Pullers
Combat Missions
Life Threatening

\$50M project



Medical
Logistics
Intelligence

\$1M project



Signal/IT
Linguist
Interrogation

\$100K project



Ethics
Culture
Engine Repair

\$10K project





Game Tech Arms Race

- Game Technology Matters – But Only Temporarily
 - ❖ Over time it becomes ubiquitous like Electricity
- We are in a Technology Arms Race between Entertainment, Defense, and Medical Industries
 - ❖ The victor claims credit for the work of the losers



What happened to Nikolai Yezhov?



Conclusion

- Game Technologies have presented numerous industries with undeniable advantages
- “Game Stigma” is being overcome to release a wave of industry disruption
- Every industry has brilliant people who can apply this technology and create their own
- Game technology will be the parent of a number of new niche industries that will take these tools into entirely new areas

