Does IT Matter?

Does GT Matter?

*DOES IT MATTER?*

*INFORMATION TECHNOLOGY AND THE CORROSION OF COMPETITIVE ADVANTAGE*

*NICHOLAS G. CARR*

*DOES GT MATTER?*

*GAME TECHNOLOGY AND THE CORROSION OF COMPETITIVE ADVANTAGE*

*Roger Smith*
“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 Tech

3D Engine

GUI

Physical Models

Network

Game

Tech

Persist
gence

AI

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

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?
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.