

Synthetic Worlds

The business and culture of online games

Marek Maurizio

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synthetic WORLDS



THE BUSINESS AND CULTURE OF
ONLINE GAMES

Part I - Introduction to Synthetic Worlds and their
Economy

The Changing Meaning of Play

- a serious look at online computer games
- online games
 - social games, MMORPGs, FPS shooter, browser games, ...
 - massive flows of real human interactions (information, commerce, war, politics, society, culture)
 - humans interact with each other in the guise of videogame characters on a persistent basis

Some Numbers - 2005

- Users experience the online world with game characters
 - some characters are better than others: characters can be bought and sold (a Jedi on the Star Wars MMORPG can cost as much as \$2,000)
- Typical users spend 20-30 hours per week playing; some power users play more
- NOTE: old book! in 2005 WOW had just 300.000 users (in 2008: 10 millions!)

Online Games and E-commerce

- Most synthetic worlds have a play-money currency to facilitate player-to-player transactions.
 - those currencies can be traded against real money in eBay's Category 1654: Internet Games
 - some are valued more than the Korean won
- The commerce flow is > \$30 millions in USA and \$100 millions worldwide
- In Asia people who lost online item due to server insecurities and hacks called the police: arrests were made

The line between games and real life become blurred

"The generation that grew up on video games is blurring the lines between games and real life"

- Pierre Omidyar, eBay Chairman, May 2006



What's a Synthetic World?

- Crafted places inside a computer that are designed to accommodate a large number of people
- A kind of virtual reality, a practical virtual reality tool, a way to make decently immersive virtual spaces on demand
- First thing that comes in mind with “virtual reality” is the science-program term



The Cell (2002)

bodies suspended on wires, wrapped in a strange red suit

Virtual Reality



- In synthetic worlds virtual reality emerged from the game industry rather than academia/science
 - academia/science approach: focused on sensory-input hardware
 - literature: Gibson's *Neuromancer* (1984), Vinge's *True Names* (1981), ...
 - game approach: focused on mentally and emotionally engaging software
- The way humans are made, the software approach seems more successful, popular, cheap
- Virtual reality has re-emerged from the past, but not from the ruins of the old paradigm

Practical Virtual Reality

- The new virtual reality concept has not emerged from the old paradigm
- The two fields have little in common
 - science focus on hardware and sensory input
 - games focus on software and emotions
- videogames are a practical virtual reality, cheap and accessible
- you have a synthetic body to control and interact with others

Game VR

- The virtual reality that emerged from the game culture is different for three reasons:
 - Game VR focuses on communities, not individuals
 - Game VR focuses on software, not hardware
 - Game VR is born from commercial markets, not labs



Emotional Virtual Reality

Crysis 2



Surrogates

Unique blend of new and old concept of VR

Names for Ner Worlds

- Most synthetic worlds are games
- MMORPGs, based on the old concept of MUDs
- The concept of virtual world is rather old

Proskenion, ancient greek theater, one of the first physical spaces to serve as another place, that exists only in imagination



Social

Game

Social Platforms



MOG

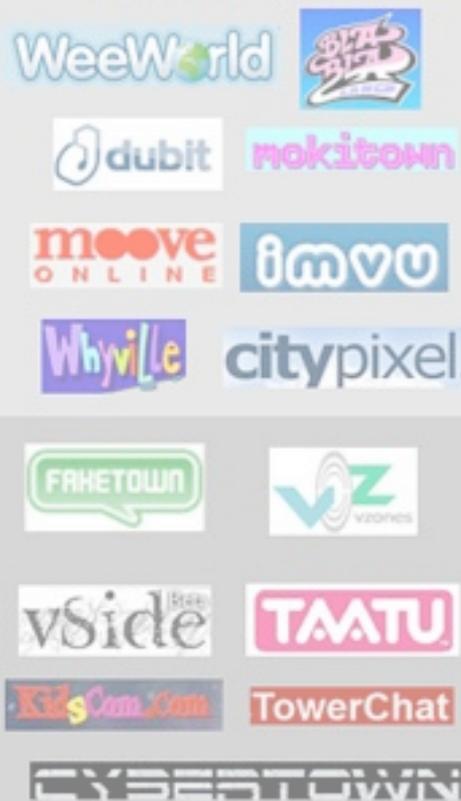
★ FOOTBALL ★ SUPERSTARS

ONLINE SOCCER MANAGER



Sports Games

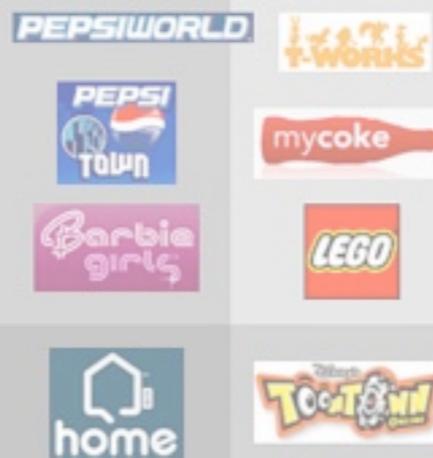
2.5D & 3D Chats



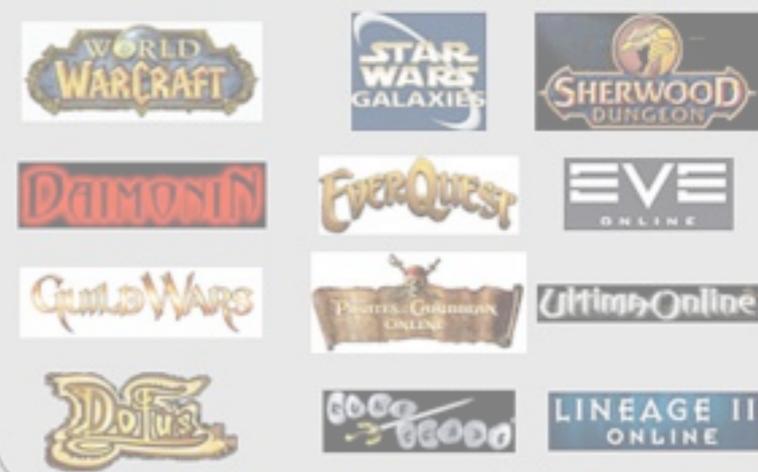
Avatar-centric



Branded Universe



MMORPG



Virtual Worlds



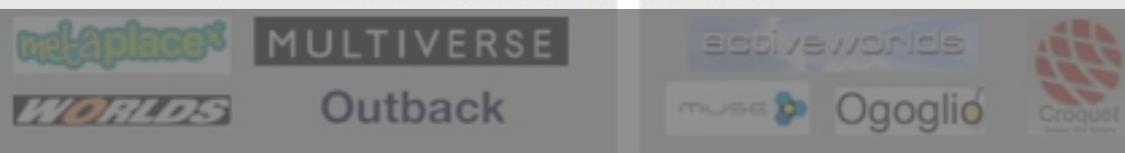
Adult games



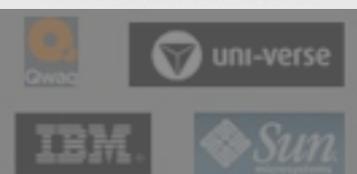
Virtual Sex



Virtual Worlds Generators



Serious Games



Virtual Marketplaces



Virtual City Guides



Business

Part II - Worlds

Entertainment

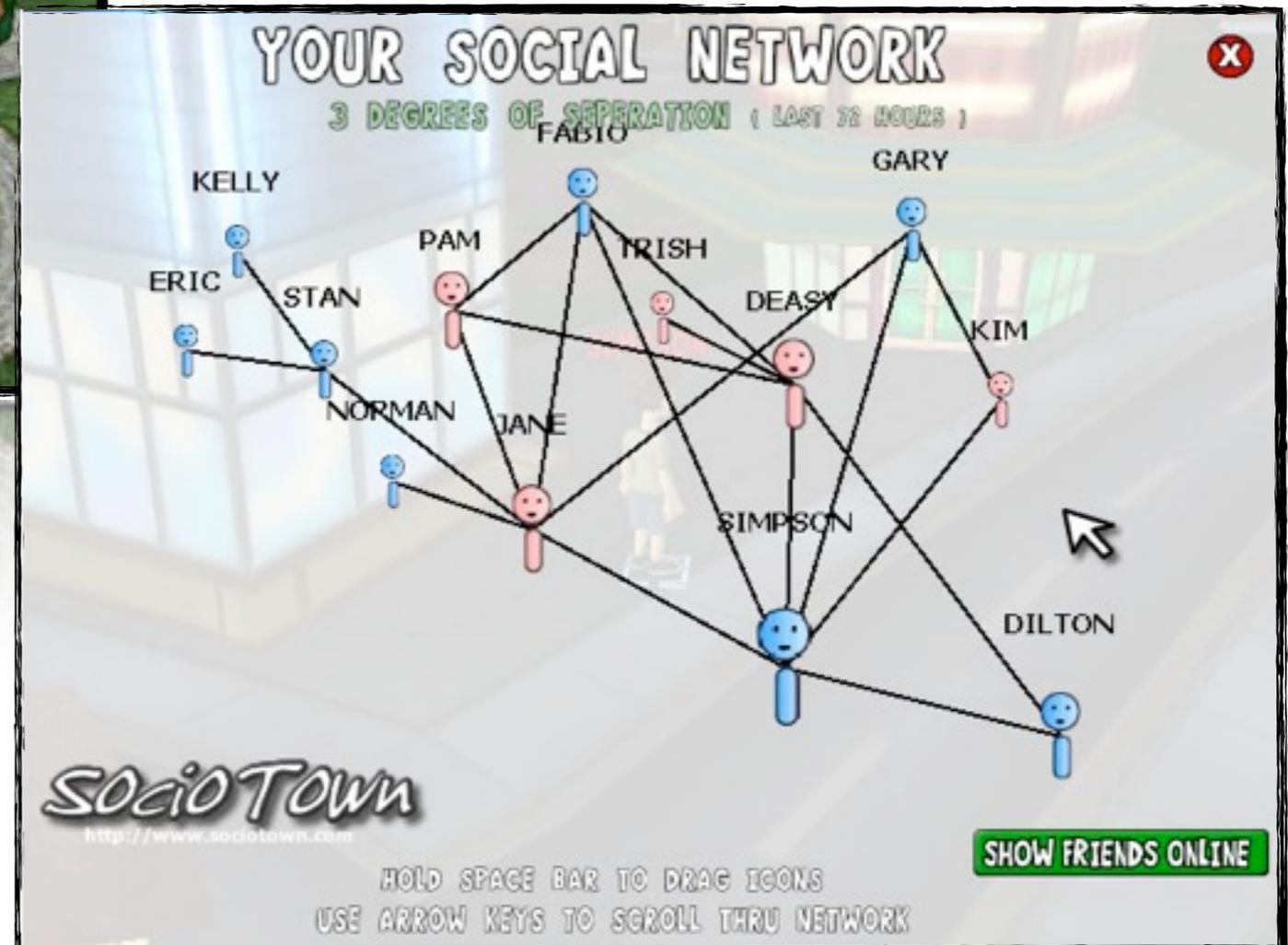
A Taxonomy of Worlds

- Online worlds are many and different, richly varied
- We can classify them on three dimensions:
 - size of the user base
 - what can players do
 - presence or absence of Artificial Intelligence

Purely Social Worlds

- wonderful landscapes
- detailed avatars
- many ways to manage contacts and communications
- space for user creativity
- little or no AI at all
- little starting contents, based on user generation

SocioTown



USE ARROW KEYS TO SCROLL THRU NETWORK

Second Life

- Second Life (SL) is a virtual world developed by Linden Lab launched on June 23, 2003, and is accessible on the Internet. A free client program called the Viewer enables its users, called Residents, to interact with each other through avatars.[1] Residents can explore, meet other residents, socialize, participate in individual and group activities, and create and trade virtual property and services with one another, or travel throughout the world (which residents refer to as "the grid") [source: http://en.wikipedia.org/wiki/Second_Life]



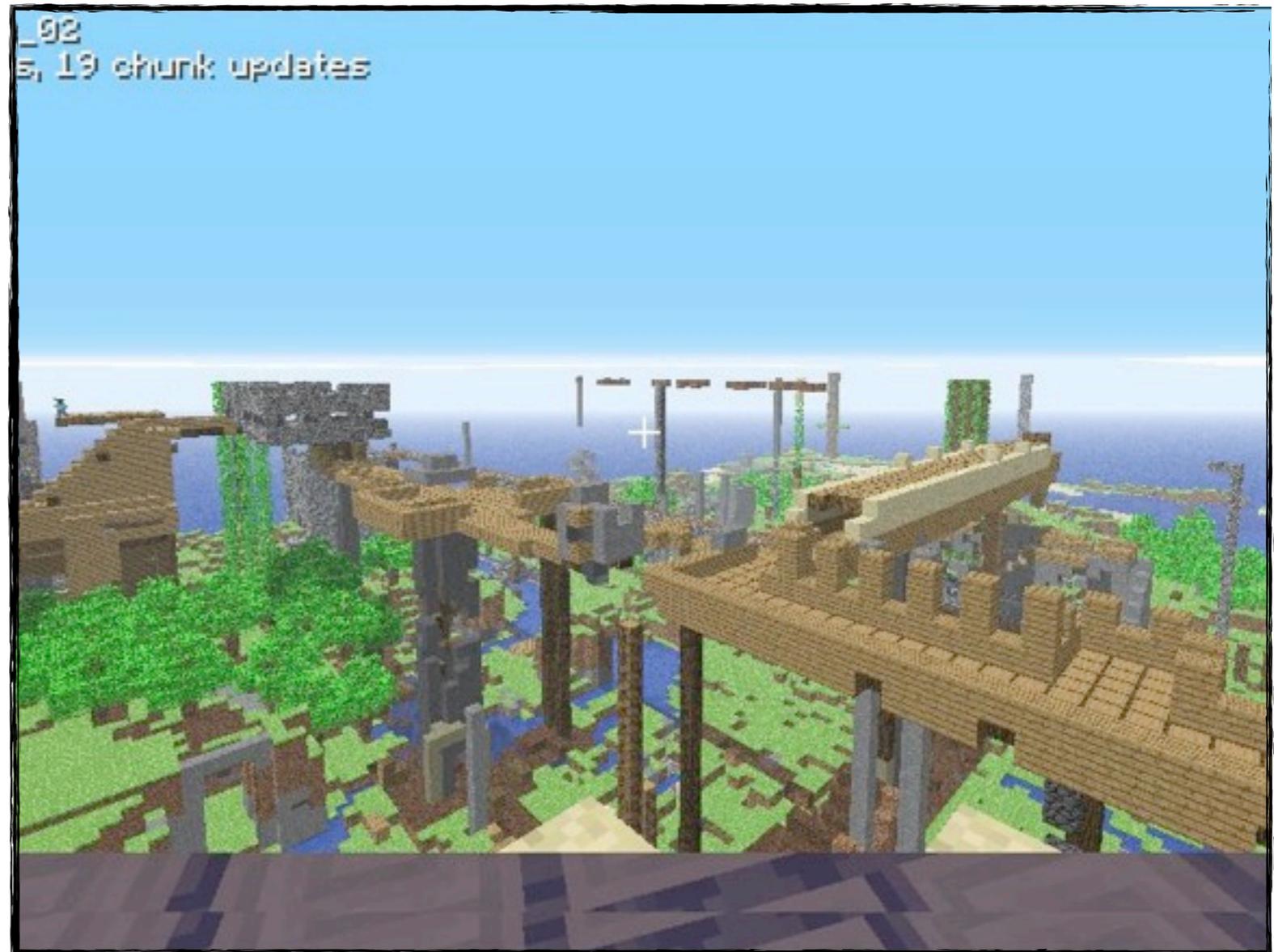


Second Life

Trailer

Minecraft

- Browser/desktop java game
- Developed by Markus Persson
- Sandbox building game
- Lots of awards
- Limited online capabilities
- Still in beta stage



MMORPGs

- large content base (quests, buildings, puzzles, etc.)
- large use of AI (usually bad AI, monster see you, monster attack you)
- medium detailed avatars
- interaction structures to buy, sell, interact with friendly AI
- large number of players

World of Warcraft

- World of Warcraft, often referred to as WoW, is a massively multiplayer online role-playing game (MMORPG) by Blizzard Entertainment, a subsidiary of Activision Blizzard. It is the fourth released game set in the fantasy Warcraft universe, which was first introduced by Warcraft: Orcs & Humans in 1994. World of Warcraft takes place within the Warcraft world of Azeroth, approximately four years after the events at the conclusion of Blizzard's previous Warcraft release, Warcraft III: The Frozen Throne. Blizzard Entertainment announced World of Warcraft on September 2, 2001. The game was released on November 23, 2004, on the 10th anniversary of the Warcraft franchise.



FPS Worlds

- small number of players (4-64)
- little population persistence
- small playfield (unconnected maps)
- little or no AI (bots)

Example: Team Fortress 2

- Team Fortress 2 is a team-based first-person shooter multiplayer video game developed by Valve Corporation. A sequel to Valve's previous Team Fortress Classic, it was first released as part of the video game compilation The Orange Box on October 10, 2007 for Windows and the Xbox 360.[3] A PlayStation 3 version then followed on November 22, 2007.[4] The game was later released as a standalone package for Windows on April 9, 2008. Team Fortress 2 is distributed online through the Steam system, while retail distribution was handled by Electronic Arts. The development of Team Fortress 2 is led by John Cook and Robin Walker, the designers who originally created the Team Fortress modification for Quake in 1996.



Example: Call of Duty MW

- Call of Duty 4: Modern Warfare è il quarto capitolo della serie di Activision ed è uno sparatutto in prima persona di guerra. A differenza dei precedenti capitoli, dove il gioco ritraeva in tutti e tre gli episodi la seconda guerra mondiale, il gioco è ambientato in un periodo storico più vicino ai nostri giorni; questo capitolo è infatti dedicato alla guerra contro un'ipotetica coalizione tra ultra-nazionalisti russi e terroristi islamici. Da qui la possibilità per i giocatori di utilizzare i Marines statunitensi e SAS britannici.



Virtual universes landscape



CC BY-NC-SA FredCavazza.net

Virtual Worlds

from and high-level view



Part III - The business of world-making

World Making

- Small number of dominant firms facing off against each other
- Blizzard, NCSoft, Sony, Electronic Arts, Valve, etc.
- A large number of small developer, mostly eastern, with smaller or browser games

Pricing Models - Classical

- The common model is a two-part pricing system:
 - clients buy the software for a fee
 - clients pay subscription fee on a monthly basis
 - new contents are released periodically
- This pattern is nearly universal

Other Pricing Models Options

- Charging a fee for in-world goods and services
- Let users have a revenue and collect fees
 - Second Life model: users are landowners and can create value on their properties
- Advertise in-game, but must be handled with care, may destroy the immersion
- Pricing models greatly affect the user basis



Part IV - The Magic Circle

The (Almost) Magic Circle

- Synthetic worlds are surrounded by a “membrane”
- Within this barrier life proceeds according to fantasy rules
- Outside the barrier, life is normal, according to ordinary rules
- The membrane shields the fantasy world from the ordinary world
- The membrane is actually quite porous
 - it can't be sealed completely, people carry their behavior with them inside the virtual world

Virtual Objects Value

- In recent years we witnessed a growing value of virtual objects
- When people agree that an object has a real value, it's not virtual anymore
- If gold pieces, spaceships, flaming swords have a fun factor, a monetary value, they influence real life and become real
- The term virtual is losing its meaning (if it ever had one)

Magic the Gathering Online: virtual cards have real value



Where do the membrane breaks?



Market

Market

- The most obvious blur between worlds is the pricing of virtual goods
- World builders always intended for goods and services to have a price market only inside the world...
- ... but these things acquired a robust market in real currency outside the fantasy world
- On 2006 eBay hosted about \$30 million in synthetic world items auctions, mostly gold selling
- Another significant chunk involves trading powerful/rich/famous user accounts

Outside Markets

- The existence of these markets has interesting effects on the synthetic world economy
- The economy become difficult to control
 - unskilled labor market may affect the value of playing in a synthetic world
 - do nothing but mindlessly farm gold pieces, then sell the gold on eBay
 - the value of gold drops
 - the value of everything else in the game drops
 - less sense of achievement

Fun

- A synthetic world economy must be fun!
- It's fun if it rewards hard work and a rags-to-riches storyline
- It's more fun if it undo the real world injustices
- eBaying damage the fun factor of the game

Real and Virtual Money

- Can we remove eBaying from a game?
- Probably not, but it can be reduced
 - if an avatar gives much for nothing repeatedly, it is suspect
 - progressive taxation
 - eBay can cooperate (but sellers just move to other sites then)
- **Summary: money in fantasy worlds are just like real money, have the same social mechanism and have the same functions**

I WILL NOT **RAISE** COIN TAXES
I WILL NOT **COWER** IN FEAR
I WILL **PROTECT** YOU



VOTE MARIO

EVERY **WARP PIPE** CONNECTED
EVERY **TOAD SOLDIER** HOME
AN **INVINCIBLE BOND**



VOTE LUIGI

MARIO VS. LUIGI

The Next Generation

Politics

Fairness

- Another way of bringing reality into a synthetic world is the politics of fairness
- Politics is inevitable: users are a community affected by an authority decisions
- Users have roles
 - long to obtain (it takes long to be a powerful wizard)
 - locking (it's difficult to become a warrior if you're a wizard)
- It's very common that users complain about their status and plea for improvement

Player Critiques

- Synthetic worlds have many sanctioned avenues by which one can communicate with the coding authority...
- ... but usually public avenues like forums are used by players
- Most exercise in the finest tradition of political philosophy
 - arguments are almost always in terms of balance and fairness
 - powerful and not fun things should be *nerfed*
 - debates rage endlessly on official or third party forums rather than inside the game

Political Clamor

- In both real and synthetic worlds political clamor often works
- Gaming companies are profit-oriented
 - if something is publicly recognized as unfair it's in their interest to fix it
 - forums are the public face of the game and can bring new customers
- Less political clamor happens inside the game
 - in early Ultima Online days players marched to the King's throne, got naked and puked everywhere

Coding Authorities

- When users take their political concerns outside the world, the membrane is broken in a radical way
- Ordinary commerce pressures gives voice to political issues inside the world
- The coding authority interest in pleasing paying users is enough to turn virtual issues in real ones
- When changes are made, c.a. never refer to user protests (admitting their usefulness = more of them)



Law

Law

- The notion of cyberspace as a unique legal jurisdiction is no longer novel
- explicit legal analysis of synthetic worlds
- Critical issue: nature of property
 - do you own your virtual goods?
- The answer is in the game's EULA and TOS
 - usually you don't own anything, so you can't dispose of items

Law - II

- In these documents every click is labeled as 'uploaded content' and is owned by the coding authority
- You also agree to have no 'free speech' and beign required to follow any and all instructions of the coding authority representatives
- EULAs are not yet been subject to serious court challenges

Summary

- Economic
- Political
- Legal
- Activities that crosses the membrane between synthetic worlds and the real world
- Distinction between the two worlds begins to blur...

**FOR
SALE**

BY ~~OWNER~~

PLAYER

Part V - Free Commerce

Free Commerce

- People set up business inside symthetic worlds
- Business that capitalize the deep knowledge of such worlds
- Business that earn real-life money

Money Selling

- Several companies take advantage of the mix between real and synth worlds
- Blacksnow Interactive: buy and sell item in Dark Age of Camelot (DAoC)
 - a real world sue emerged
- Yantis Enterprises: selling items for EverQuest
- Internet Gaming Enterprises: operates in North America and covers all major online games
- Inter-game services: migrate your earnings from one game to another

Companies

- Some of them are extremely successful
- IGE bought Yatis for \$10 millions
- Julian Dibbel, journalist, proved that he can earn \$2000 a month by trading in virtual worlds
- The market was growing in 2006

Opposing Forces

- Even with this success, IGE and other companies are not accepted within the game industry
- From a practical point of view, there is no strong opposition
- Why?
 - Notion of property: objects i create belongs to me
 - the EULA usually says the contrary
 - if you have no propety inside a game the developers are not responsible for losses, stole items, price drops, and so on...

Opposing Forces II

- Developers rely on the EULA to defend the membrane
- Values that appears only outside the world can be ignored
 - gold pieces have no real-world value
- Summary: **a new form of business enterprise is emerging**
 - interests that go in and out the game membrane

Exceptions

- Second Life
 - count as a middleware start-up
 - their business plan is to allow anyone on the outside world to buy pieces of the virtual world
 - users can build things and retain full property rights
 - users can make profit on things they create

Exceptions II

- In 2010 Valve introduced the Mannconomy Update in Team Fortress 2
 - Players can use real money to buy customization items for their avatars
 - Some of these items also bring special powers
 - Some items came from the community: valve shared earnings with the item's designers (that made around \$40k in the first month!)
 - Items can be customized (names, colors, etc.) and traded between players, but not be sold outside the game



Current Facade:
▶ ALENTINE

Facade: ▶ :323646 (4,3302367)
Energy: ▶ :166667 (166667)
Eccentric: ▶ :10322 (10322)
Crash: ▶ :4141 (4141)
Security Level: ▶ :1.2

• Current disconnector
System: ▶ :10322 (10322)
Eccentric: ▶ :16667 (16667)
Calculator: ▶ :10322 (10322)
Security Level: ▶ :1.2

Real system in mode (1, 1, 1, 1, 1)
Energy: ▶ :10322 (10322)
Eccentric: ▶ :16667 (16667)
Calculator: ▶ :10322 (10322)
Security Level: ▶ :1.2

SEARCH [1/1] HELP [1/1]
▶ OVERVIEW [1/1]

Part VI - The Economy of Fun



100% PROGRESS

Where's Reality?

- At first glance things on Earth are real, things in a synthetic world are not
- We learned that money in synthetic worlds has all the features of money outside synthetic worlds
- so, everything is real!
- Careful balance is needed to preserve the fantasy/scifi/whatever atmosphere of the fictional world
- “Real” is a fuzzy term after all...

The Economics of Fun

- Economy is an integral part of the fantasy world
- Every synthetic world has a set of user institutions, game mechanics, and AI systems that collectively constitute an economy
- What is economics?
 - Usual definition: the study of choice under scarcity
 - Human beings have desires they can't satisfy with current resources

Time Allocation is an Economy

- Like everyone, users of synthetic worlds have to choose how to allocate their time
 - it's choice under scarcity
 - without exceptions
- This means that every game world have and always had an economy

Game Economy Design

- From the game industry point of view:
 - the objective of the economy is **FUN!**
 - maximize the fun of the users to keep them and attract more users
 - more users fun = maximize profit for designers

What Makes an Economy Fun?

1. Consumption and Acquisition
2. Fair returns to work and skill
3. Creation of things and of the self
4. Missions and purpose
5. Robust Competition under equal opportunity
6. Risks and bargains
7. Property and crime
8. Chaos and History

Consumption and Acquisition

- Getting something you've come to desire
 - Buy something
 - Collect information on prices, qualities, and make a choice
 - Wearing and using items
- Examples
 - Check wikis an armor you like, find prices, come up with a crafting plan, acquire the materials, craft and paint it
 - Collect 10000 useless shirts
 - Wear a cleaning gauntles as hat

Fair Return to Work and Skill

- Activities that may not be fun in themselves get a great reward
 - People seems to enjoy to carry out boring tasks if they get something nice in return
 - chopping wood for hours is fun if you can craft the Sword of Nine Hells with it
- It's fun to get rewards of you're good at something
 - titles, badges, honors, **achievements**

Creation of Things and of the Self

- Joy of creation
- Combine basic items into more complex ones
- Rags-to-riches phenomenon
 - start with nothing and make yourself a powerful king

Missions and Purpose

- A fun economy give people a role to play
- The role should be a critical part of the system
 - workers must feel needed
- Roles can be used in a competitive way
 - two realms can be in competition to better equip their warriors

Robust Competition Under Equal Opportunity

- Fun in competing with other people
- even if the object of the game is arbitrary
- Competition must be fair!
- Rule changes can disrupt fair competition
- Example: Guild Wars PvP
 - equal competition for everyone
 - cuts out great parts of PvE play however

Risks and Bargains

- A fun economy have some sort of uncertainty
- Luck should play a role
- Smart players will gradually learn how to make bets and take chances
- Improve the emotional engagement

Property and Crime

- Owning things feels good
- Committing crimes is also fun (something you can't do in the real world)
 - crime fascinates people, judging from passive media (TV, movies, etc)
- A fun economy takes thievery into account

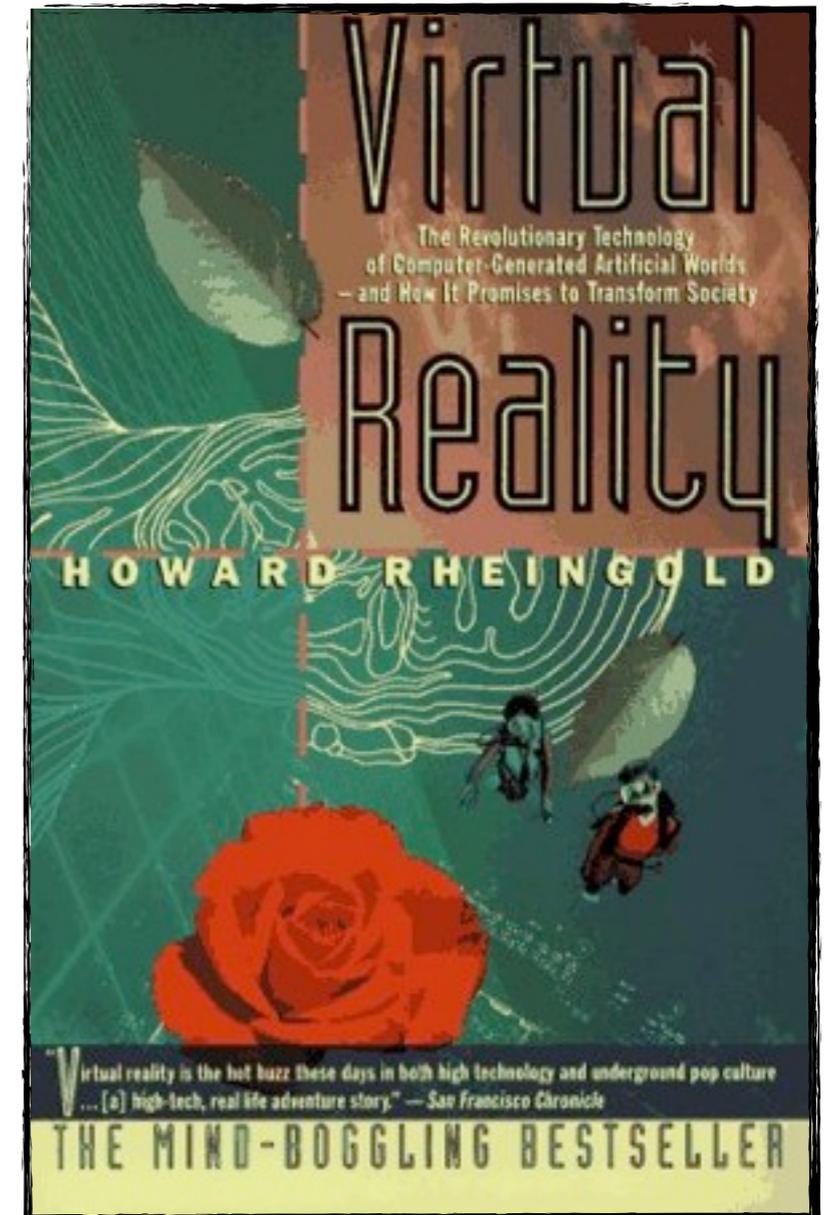
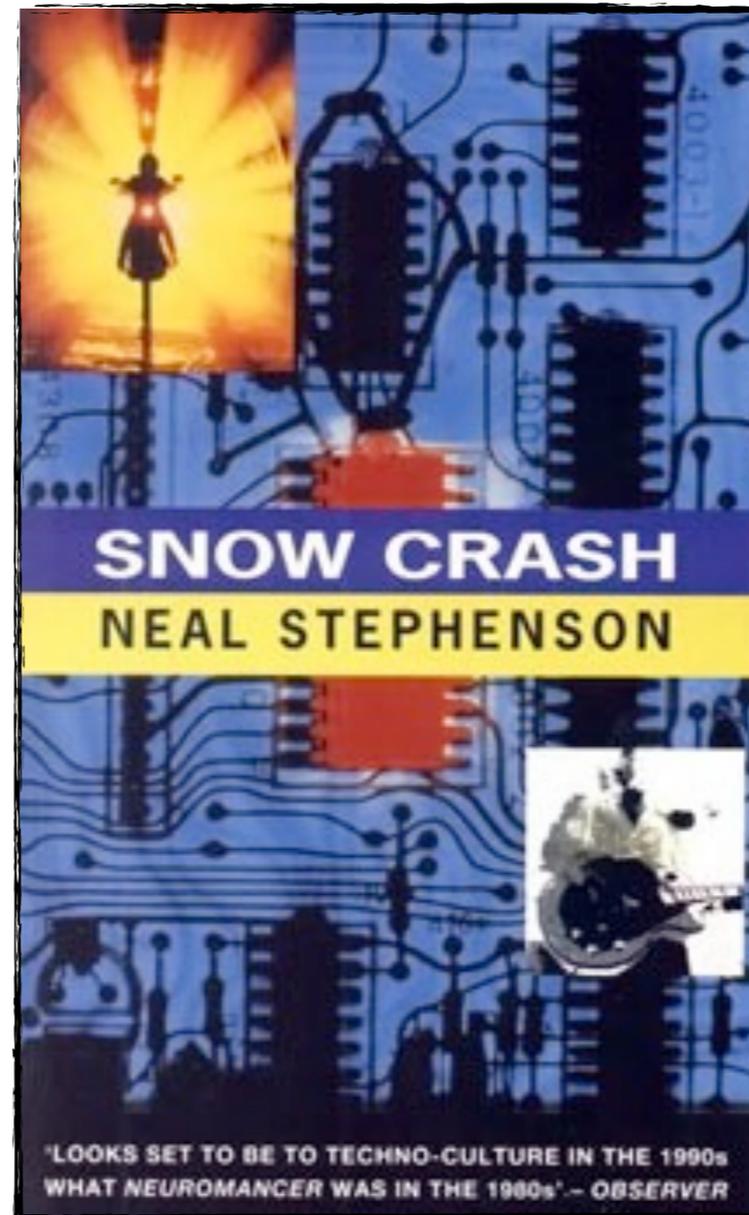
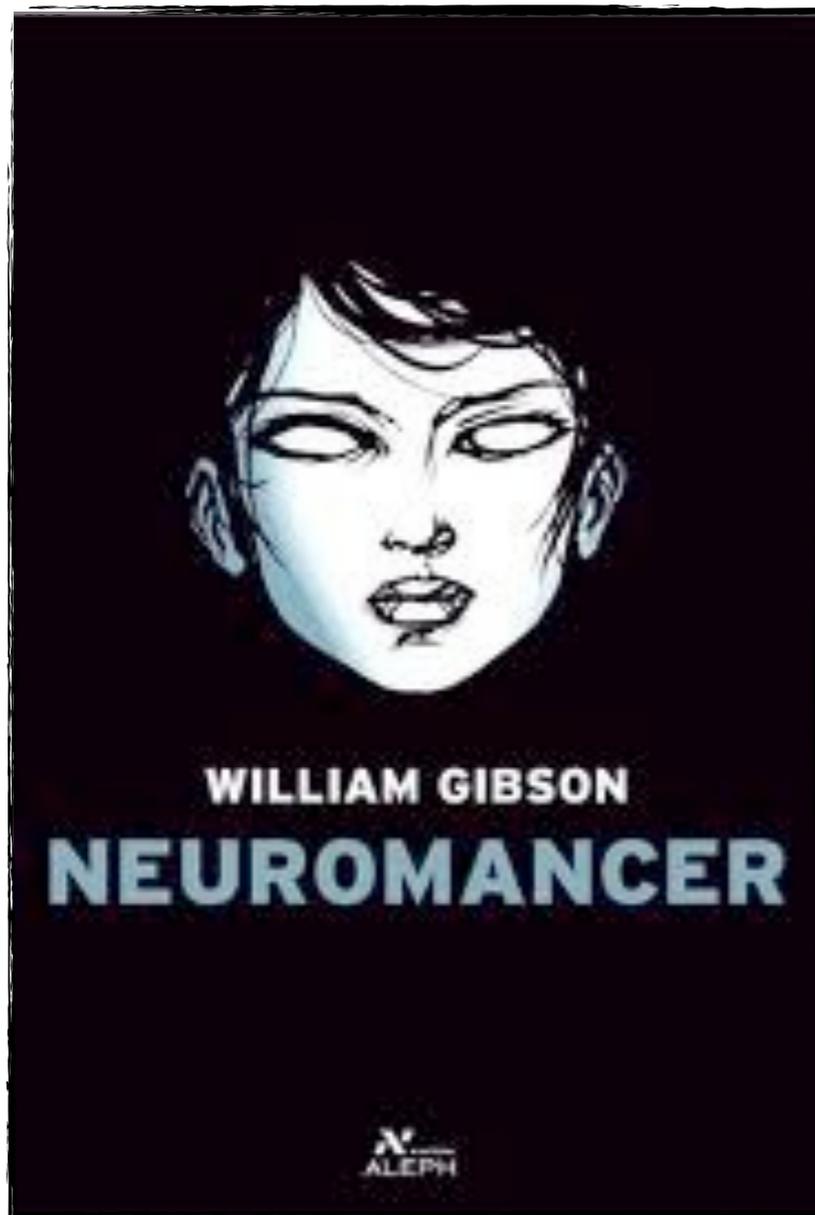
Chaos and History

- A fun economy should have major events and epochs
- Prices should shift due to new areas, new crafting recipes, and so on
- Gives the players a sense of history
- Designers can introduce a small amount of chaos to keep the economy active

Conclusions

An Age of Wonders

- The meaning of *virtual reality* for humans have been described very well by early visionaries



(too much) imagination

- Visions were too far away in technology
- Everybody imagined virtual reality at the end; no one was able to imagine it at the beginning



Metaverses

- Early visionaries saw a single “metaverse” to exist in parallel with our real universe
- Synthetic worlds emerged instead as thousands of small separated islands
- Immersion using minimal sensory hardware (video, vibration, 5.1 sound) is sufficient to achieve a deep emotional effect

E-Commerce

- Online games and e-commerce connect on many points
- Selling digital games is an e-commerce activity
- Sub-markets grows inside and outside virtual worlds
- Every game has an economy with rules similar to “real” economies