Virtual Worlds

Loosely based on "Designing Virtual Worlds" by
Richard A. Bartle and other sources

Virtual Worlds

- Features
  - Characters
    - Represent users/inhabitants
  - Rules
    - Underlying automation allows users to effect changes
  - Real-time
    - Immediate feedback from action
  - Shared
    - Multiple users can interact
  - Persistent
    - The world doesn't "turn off" when all users leave

Birth of virtual worlds

PLATO

PLATO (U. Of Illinois 1961)

- **P**rogrammed **L**ogic for **A**utomatic **T**eaching **O**perations on CDC* mainframes
  - US response to the apparent technological superiority of the USSR

PLATO

- 1960-61: 2 users at the same time
- 1963-69: 20 users at the same time, "anyone" could design new learning modules using TUTOR, bitmapped display, "applets"
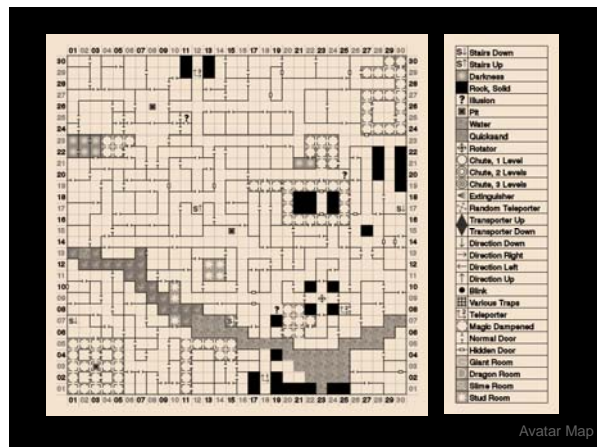- 1975: 150 locations connected

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PLATO

- Communication Features
  - Provided through shared memory
  - Personal Notes (email)
  - Talkomatic (Instant Messenger)
  - TermTalk (shared screen)
- Multiplayer Games
  - Flight Simulators ("Airfight" 1973 → MS Flight Sim)
  - Role-Playing Games ("Avatar" ~1975-79)

Avatar

Avatar Map

PLATO

- Influential but not direct impact
  - Fast network and superior graphics not available to most people!
  - A terminal cost about $12,000

Birth of widespread virtual worlds

MUD

Original MUD (Essex U. 1978)

- Motivation (for Roy Trubshaw)
  - Make single player games like ADVENT and ZORK (DUNGEN) multiplayer (thus **M**ulti **U**ser **D**ungeon)
  - Interest in language parsers and interpreters
- Development (on DEC 10)
  - Engine: Written in MACRO-10 (1978), later in BCPL (fore-runner of C)
  - World: Written in MUDDL (Multi-User Dungeon Definition Language)

Original MUD

- Networking
  - New Packet Switching Service pilot program with BT: EPSS with contact to and from ARPA net.
  - Direct Dial-up (extra modems donated by enthusiastic users in the BBS community)
  - Maximum number of players in a single world: 36 (36 bit words, 1 bit used per player); New worlds were spawned for more players

AberMUD (U. of Wales 1988)

- Development
  - Originally written 1987 in B (fore-runner to C) for Honeywell L66 mainframe under GCOS3/TSS, but ported to C in 1988.
  - C code compiled on Unix! MUD (and various incarnations) spread throughout the world's Universities.

- See for example: `asylum-mud.org 6715`

TinyMUD (CMU 1989)

- Main Feature
  - Users could create new locations and objects from within the world (of limited functionality).
- A Social Virtual World
  - Deliberately intended to be different from hack-and-slash MUDs like AberMUD before it.
  - Practically no "game" aspect! Users made stuff and talked about it!
  - **D** for "Dimension" or "Domain", not "Dungeon"

LPMUD (U. Of Gothenburg 1989)

- Motivation
  - Mix adventure of AberMUD and user-extensibility of TinyMUD
- Main Feature
  - In-Game scripting language: LPC
  - Users could create powerful objects and functionality while game was running!

LambdaMOO (Xerox PARC 1990)

- Motivation
  - Place for play, conferencing and collaboration
- Main Feature
  - "**M**UD **O**bject **O**riented" through the MOO Programming Language (byte-code compiled, dynamically typed, prototype object oriented)
  - Attracted journalists, academics and "social misfits" – still an active community!
- See: `lambda.moo.mud.org 8888`

MediaMOO (MIT 1993)

- Motivation
  - Previous MUDs/MOOs a random collection of people with little in common: Least common denominator of discourse.
  - Create a professional community of Media researchers with known names and email addresses.
  - "Like an endless reception for a conference on media studies" (Amy Bruckman)

MOOSE Crossing (MIT 1995)

- Motivation
  - Teach children 8 to 13 to program
  - A constructionist learning environment
  - Community and construction support learning
- Major Feature
  - MOOSE programming language designed for children

The graphical MMORPG evolution

MERIDIAN 59 TO WOW

Meridian 59 (3DO 1996)

- Goal to become the first 3D MUD (based on Scepter of Goth).

- First "first-person perspective" virtual world since Avatar.

- Bad business decisions, and somewhat premature technology led to limited acceptance.

Ultima Online (OSI 1997)

- Design lead by Raph Koster with MUD background.

- Emphasized role-playing and community.

- Attracted 100,000 subscribers in 1st year!

- Victim of its success: Too many customers.

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EverQuest (989 Studios 1999)

- Built on DikuMUD (1990), which itself was a rewrite of AberMUD.

- Quickly reached critical mass of players (surpassed Ultima Online within 6 months).

- Became the de-facto MMORPG interface.

- Endlessly cloned (100+ announced within 2 years)...
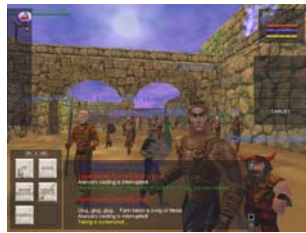
World of Warcraft (Blizzard 2004)
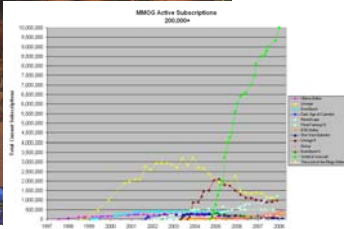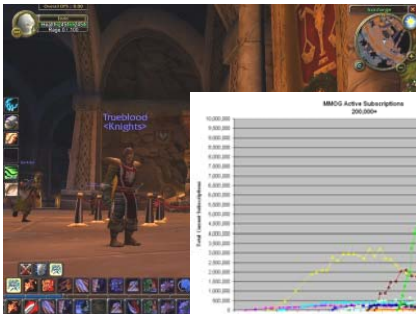
The graphical social evolution

HABITAT TO 2ND LIFE

HABITAT (Lucasfilm Games 1986)

- Pilot project on Quantum Link (later AOL) for Commodore 64.

- Supported thousands of users in a shared graphical world.

- Users had their own apartments, could go shopping, run businesses and participate in little stories (like plays).

- A grand experiment in virtual community building with well documented lessons.
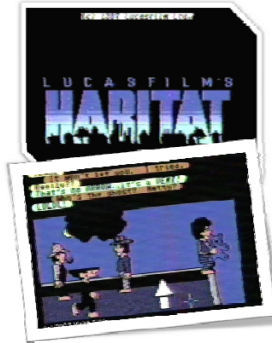
HABITAT

- Essential lesson: Cyberspace is defined more by interactions among users than by implementation technology.

- Habitat consisted of around 20,000 regions (screens) and hundreds of interactive object types like Books, Vending machines, Drugs and Teleports.
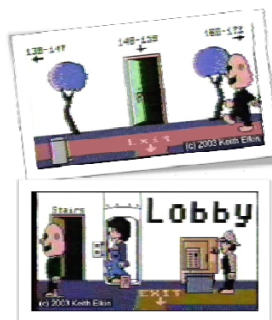
HABITAT

- People seek richness, complexity and depth which can only be provided by other people

  → Focus on augmenting communication and interaction.

HABITAT

- Detailed central planning is impossible

  → Centrally planning an entertaining world for 20,000 people simply too big of a task.

  → No fixed sets of objectives, but a palette of possible actitvities, some of them structured (treasure hunts), some propelled by user motivations (businessness), some free form (parties).

  → Observe and assist.

HABITAT

- Help with self-regulation and work within the world itself.

  → Support groups, orders and guilds that can structure their activities and the society around them.

  → Be aware of the endless debate on crime and punishment.
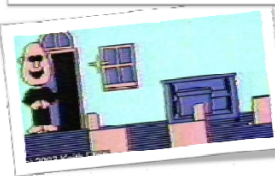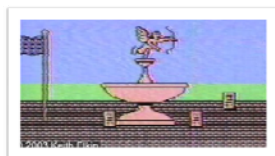
Worlds Chat (1995)

Active Worlds (1995)

Active Worlds December 1996

OZ Virtual (1996)

BodyChat (1997)

Second Life

- "Second Life residents get virtual meeting rooms: Crowne Plaza brings **business meetings** to the popular online three-dimensional world"
  Times Online, July 4, 2007

- "Art makes a scene on Second Life: The online virtual world is becoming one of the **best places for artists, curators and dealers to meet**"
  The Art Newspaper, July 4, 2007

- Teaching methods enter modern age: Almost **300 universities now host classes** in the 3-D virtual world of Second Life"
  The Mercury News, July 5, 2007

Second Life

- "From Real Life to Second Life: Global Warming **Activisim in the Metaverse**."

    Red Green and Blue, December 11th, 2008

Some competition....

- "**Nortel** Web.Alive = Second Life for Business"
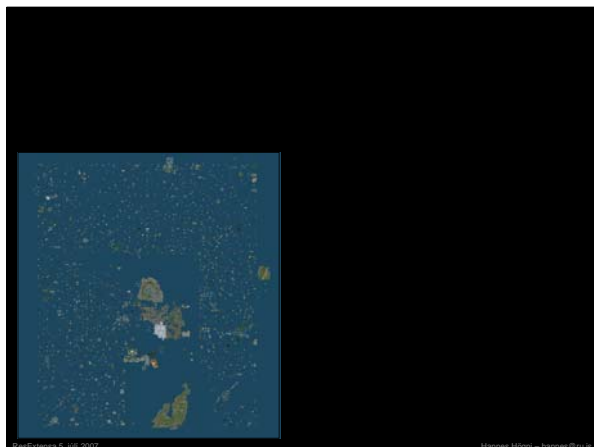
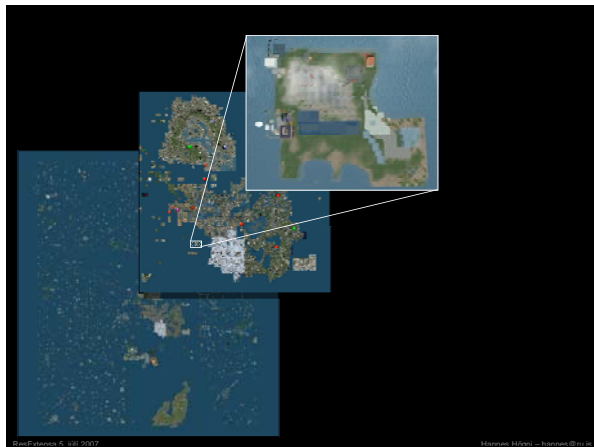   TMCnet.com, December 15th 2008

- "How is **Sony**'s Home better than Second Life?"
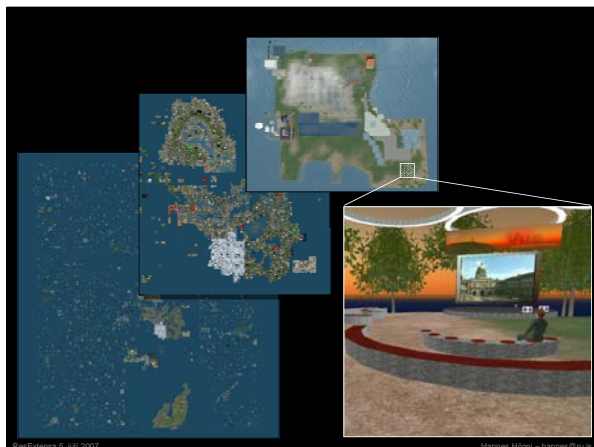
    The Christian Science Monitor, December 10th 2008

Attend University...

...go to museums and seminars...

...party...

...or just hang out...

...and shop

Virtual Property

Some Further Reading

- "PLATO: The Emergence of Online Community" by David R. Woolley:
  http://thinkofit.com/plato/dwplato.htm
- Raph Koster's Online World Timeline:
  http://www.raphkoster.com/gaming/mudtimeline.shtml
- "The Lessons of Lucasfilm's Habitat" by Chip Morningstar and F. Randall Farmer:
  http://www.fudco.com/chip/lessons.html