

# Virtual Worlds

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

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# Virtual Worlds

- Features

- Rules
  - Underlying automation, e.g. Physics
- Characters
  - Individuals populating the world
- Real-time
  - Immediate feedback
- Shared
  - Multiple individuals representing human users
- Persistent
  - An instance has longer lifetime than a session

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Birth of virtual worlds

## **PLATO**

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## PLATO (U. Of Illinois 1961)

- Programmed Logic for Automatic Teaching Operations on CDC mainframes
  - US response to the apparent technological superiority of the USSR



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## 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 (IRC/chat)
  - TermTalk (shared screen)
- Multiplayer Games
  - Flight Simulators ("Airfight" 1973 → MS Flight Sim)
  - Role-Playing Games ("Avatar" ~1975-79)

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**PLATO**

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

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Birth of widespread virtual worlds

**MUD**

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## 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)

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## 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

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## 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](http://asylum-mud.org) 6715

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### 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"

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### 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!

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### 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](http://lambda.moo.mud.org) 8888

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## 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)

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## 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

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The graphical MMORPG evolution

## **MERIDIAN 59 TO WOW**

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## 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.



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## 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...



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## World of Warcraft (Blizzard 2004)



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The graphical social evolution

## HABITAT TO 2ND LIFE

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## 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.



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# 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 activities, some of them structured (treasure hunts), some propelled by user motivations (businessness), some free form (parties).
  - Observe and assist.



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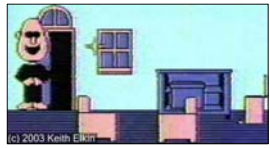
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# HABITAT

- 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.



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# Worlds Chat (1995)



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## Active Worlds (1995)



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## OZ Virtual (1996)



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## BodyChat (1997)



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## 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

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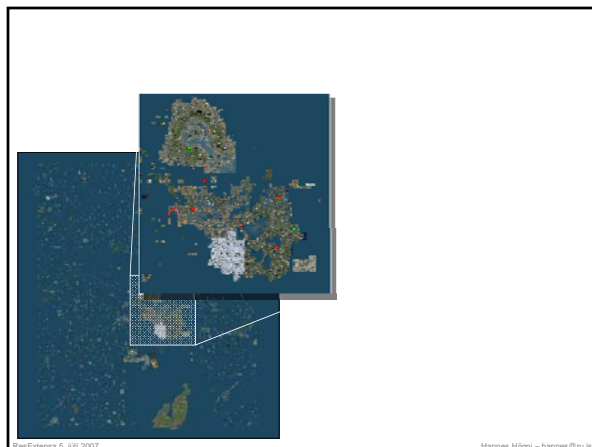
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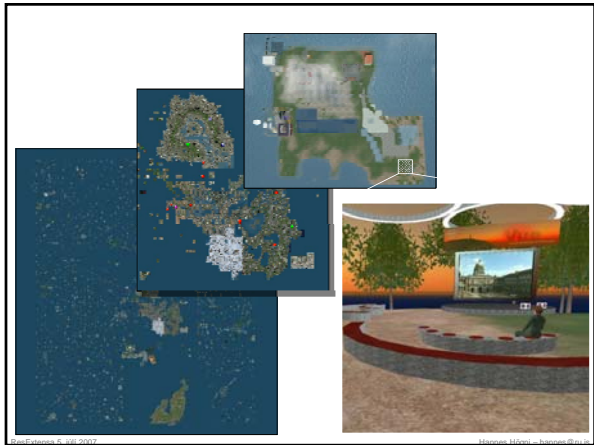
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...party...



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...or just hang out...



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...and shop



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## Virtual Property



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## 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/multimeline.shtml>
- “The Lessons of Lucasfilm's Habitat” by Chip Morningstar and F. Randall Farmer:  
<http://www.fudco.com/chip/lessons.html>

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