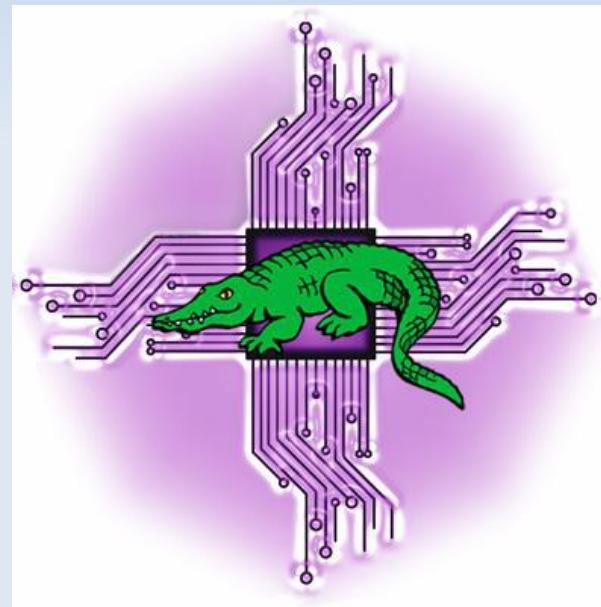


# MMORPGs and Linux

## Presentation to Linux Users of Victoria



**November 6, 2013**

<http://levlafayette.com>

# 1.0 Introduction and Definitions

## 1.1. What Are MMORPGs?

1.1.1 Massively Multiplayer Online Role Playing Game; the name describes what you need to know! Massive number of players online in a roleplaying game.

1.1.2 Players assume the role of a character, typically in a fantasy or science fiction setting, and control the actions of that character. Notable for world persistence (i.e., changes made in play remain). Arguably includes other non-game virtual world settings (e.g., Second Life as an environment and a toy).

1.1.3 A significant business; revenues from MMORPGs were over \$1.4 billion USD in 2008.

1.1.5 Worldwide, many participants. RuneScape (a free MMORPG) has 200 million and 10 million active accounts (2013); World of Warcraft has over 8.3 million subscribers (2013), and Guild Wars 6 million (2009).

1.1.6 Lots of discussion about use of MMORPGs and virtual worlds for the establishment of computer mediated communication, formation of social relationships, use as virtual economy etc. Out of scope for this talk (sorry!)

# 1.0 Introduction and Definitions

## 1.2 ... and Linux?

1.2.1 Many major MMORPGs do not run easily or natively on Linux. RuneScape is Java/HTML5 (tolerable), World of Warcraft, Eve Online, and Ultima Online discontinued their Linux clients, and Guild Wars has never had one. Regnum Online is a notable exception.

1.2.2 Nevertheless it is possible to run many of these major games using Wine.

1.2.3 Plus, there are \*many\* Linux-based MMORPGs. Planeshift and Ryzom are particularly notable efforts.



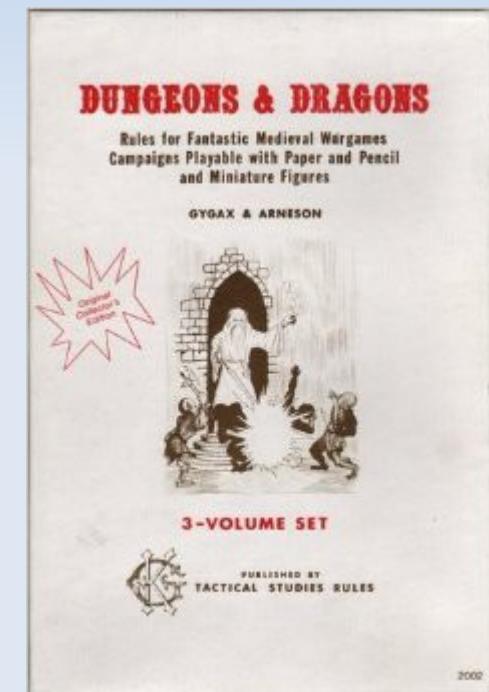
# 2.0 Prior to MMORPGs

## 2.1 Non-computer Multiplayer Virtual Worlds

2.1.1 Virtual worlds have been a component of speculation since the beginning of the written word, and of course prior to that. Including religious-metaphysical texts as asynchronous persistent shared fictions. (e.g., Yggdrasil in Norse mythology, the Egyptian abyss of Nun, Aztec Mictlan and Tlalocan, Heaven and Hell in Christianity etc).

2.1.2 The commedia dell'arte of the European 16th century onwards with its stock characters and improvised dialogue became a popular form of distributed impermanent virtual world.

2.1.3 Most major influence however was tabletop roleplaying games such as Dungeons & Dragons (1974) notable for (a) players playing a character in a shared setting with permanent world features (b) improvised interaction between the players and the non-player characters (c) a game system for mediating character action within the setting.

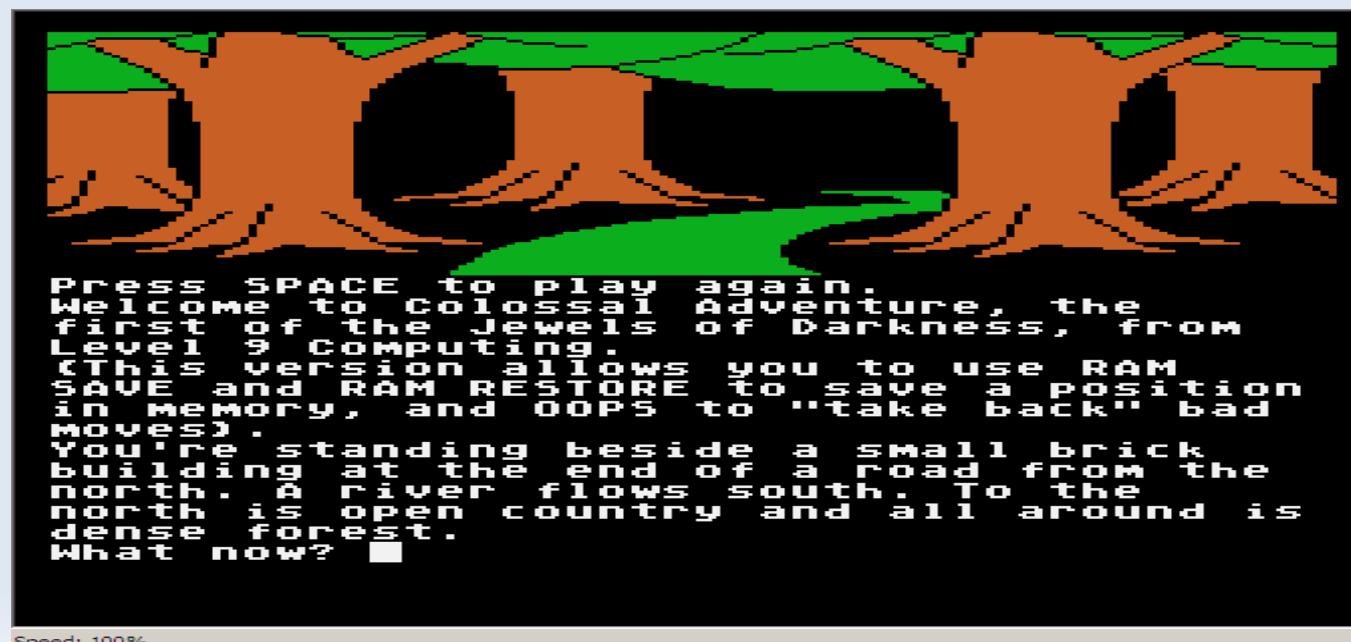


# 2.0 Prior to MMORPGs

## 2.0 Early Multiplayer/Adventure Computer Games

2.2.1 First multiplayer virtual world computer game was either Spasim or Maze War. Maze War was multiplayer 3D shooter designed at NASA. Spasim (1974) was a 32-player 3D space simulation game at the University of Illinois PLATO network.

2.2.2 Colossal Cave Adventure (aka Advent, Colossal Cave, Adventure) first dungeon/domain adventure game - but only single user. Layout partially based on the Mammoth Cave system in Kentucky. First multiplayer adventure game was simply called Multi-User Dungeon; implemented by Rob Trubshaw in 1978, a student at Essex University.



# 3.0 The MUDdy Revolution!

## 3.1 Text and Graphical MUDs

3.1.1 Essex MUD (aka MUD1) ran until 1987, and became the first Internet multiplayer online game in 1980. It was followed up by a derivative, MIST, until 1991. Numerous others also came into being during this time, including commercial MUDs such as Scepter of Goth, SHADES, Gods, Federation, Dungeons of Kesmai.

3.1.2 Around this time MUD game engines began to gather popularity. Many were derived from the original MUD1 code-base (once ported to C), such as AberMUD. TinyMUD lead to TinyMUCK, TinyMUSH and an others. LPMud lead to MudOS, DGD, FluffOS and even its own programming language, Pike. DikuMUD emphasized a 'hack and slash' style of play, leading to a number of derivatives such as SMAUG, and GodWars. In contrast educational MUDs were also developed, such as MicroMUSE.

3.1.3 As computers became increasingly powerful, MUDs were able to introduce a degree of the graphics capability that had been developed in single-player offline games. The first fully graphical MUD was Neverwinter Nights (1991), although arguably the pseudo-graphical Island of Kesmai (1985) and Habitat (1986) predates it. The key difference is that a graphical MUD requires client software which drives the graphical engine. Major graphical MUDs included Ultima Online (1997), EverQuest (1999), and Dark Age of Camelot (2001), and the aforementioned RuneScape (2001).

# 3.0 The MUDdy Revolution!

## 3.2 From MUDs to MMORPGs

3.2.1 Richard Garriott (aka Lord British) from Ultima and Ultima Online coined the term *Massively Multiplayer Online Role Playing Game* in 1997; prior to that known as "graphical MUDs".

3.2.2 Other major MMPORGs include Final Fantasy XI (2002), MapleStory (2003), World of Warcraft (2004), Ryzom (2004, AGPL 2010), Guild Wars (2005, 2012), Star Wars: The Old Republic (2008), and Star Trek Online (2010). Guild Wars 2 is notable for introducing a storyline that is malleable to the actions of players, something common in single-player games.



# 4.0 MUDs and MMORPGs on Linux

## 4.1 Traditional MUDs

4.1.1 A number of traditional style MUDs are still in operation and are easily accessible with a Linux system. Dating back from 1989, the Genesis LPMud has a medieval fantasy setting, with a high level of roleplaying expectations, even to the extent of preventing inappropriate names (<https://www.genesismud.org/>).

Also still in operation include derivations include Lost Souls from 1990 (<http://lostSouls.org/>) and Ancient Anguish from 1992 (<http://ancient.anguish.org/>). Lost Souls is notable for a specific Discordian orientation, and innovations such as an overland map environs, an emphasis on realistic combat, and, as character traits, varied languages. These are either accessible via a web interface, java client, or telnet. In the case of Genesis LPMud, the source code is readily available (<https://www.genesismud.org/pages/software>).



# 4.0 MUDs and MMORPGs on Linux

## 4.2 MMORPGs

4.2.1 See also a number of newer so-called "text-based MMORPGs" which are typically run through the browser; e.g., Blood Wars (<http://bloodwars.net/>), eRepublik (<http://www.erepublik.com/>),

4.2.3 For RuneScape it is possible to play with Linux with a new version of Java for browser-based play. For Champions of Regum there's a native client (<http://www.championsofregnnum.com/?l=1&sec=6>). For other Java-based games see Wurm Online (<http://wurmonline.com/>) and Salem (<http://login.salemthegame.com/>).

4.2.4 For Guild Wars, UltimaOnline, and World of Warcraft it is possible to run the MS-Windows client under WINE. Details are available at the following URLs:  
Guild Wars: [http://wiki.guildwars.com/wiki/Guild\\_Wars\\_on\\_Wine](http://wiki.guildwars.com/wiki/Guild_Wars_on_Wine) (2013)  
World of Warcraft:

[http://www.wowwiki.com/World\\_of\\_Warcraft\\_functionality\\_on\\_Wine](http://www.wowwiki.com/World_of_Warcraft_functionality_on_Wine) (2012?)

UltimaOnline: <http://uo2.stratics.com/technical-information/ultima-online-on-linux> (2013)

4.2.5 Or play games designed for Linux such as Ryzom (<http://www.ryzom.com>), Planeshift (<http://www.planeshift.it/>), The Mana World (<https://themanaworld.org/>), Zezenia (<http://www.zezeniaonline.com/>), Vendetta Online (<http://www.vendetta-online.com/>)

# 4.0 MUDs and MMORPGs on Linux



# 5.0 How to Program A MUD/MMORPG

## 5.1 Layers of MUD, Artistry of MMORG

5.1.1 Determine the literary elements; setting, theme, motif, plot, style, and characters.

5.1.2 Separate graphical client (player-driven) from server data (world-driven). Determine the socket connection (e.g., many MUDs use Telnet!). Work out how to create socket, bind socket, listen, accept connection, receive/send data, close socket.

5.1.3 Consider using an existing code-base. Review the various MUD family trees for what suits the game that you want: AberMUD, TinyMUD, LPMud, DikuMUD.

5.1.4 Build the world, consider using a MUD programming language (e.g., LPC, Pike) which effectively create a virtual machine for the MUD driver.

e.g., from LPC

```
inherit "/lib/room";
void create() {
    ::create();
    set_short("a simple room");
    set_long("A simple room in a simple building.");
    set_description("This is a simple room in a simple building. It
is very nice.");
    add_exit("north", "/realms/descartes/north_room");
}
```

# 5.0 How to Program A MUD/MMORPG

5.1.5 Make use of databases and object-orientated programming for the entities and pointers within the game logic to those objects.

5.1.6 Add in characteristics and capabilities for the players to generate characters.

5.1.7 Add game logic for player-character interactions with various parts of the environment (e.g., 'rooms', equipment), NPCs (including "monsters"), and with each other. Include a logger for actions.

5.1.8 Add the graphics layer. Consider existing engines (e.g., FOnline, Castle)

## ***5.1.9 Make it Free, as in Speech.***

*This presentation brought you by Zaxxon of Alfheim, Elven Warlock/Myrmidon, venturer from the Grand Duchy of Karameikos where he was party against agents of Chaos at the Keep on the Borderlands (B2), cleared and took possession of the Castle Quasqueton whilst in Search for the Unknown (B1), returned to the Borderlands, rescued Princess Agenta who was trapped in time at the Palace of the Silver Princess (B3). From there he helped establish a trade route from the Duchy to the Emirate of Yalurum where a Lost City (B4) was discovered of Cynidicea in the desert sands controlled by the monster, Zargon. After the liberation the people of Cynidicea, Zaxxon returned to the Duchy and took up a magician's quest to the Isle of Dread (X1), only to lose Quasqueton to a rogue henchman. Seeking greater magical support, he journeyed towards the Principalities of Glantri, but was lost in the Broken Lands of Thar, where he saved a blink dog pup, before becoming lost in Château d'Amberg (X2), eventually escaping that cursed interdimensional location....*