Department of Computer Science

Individual Project - CS3IP16

RenegadeSurvivor.co.uk - an online, text based, multiplayer game (MUD)

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Abstract

Glossary of Terms and Abbreviations

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# Introduction

A MUD (multi user domain) [1] is a text based, interactive, online game. Multiple players can create characters and join a real-time virtual world. In it, they complete quests, role-play, fight other players and find AI characters to interact with. It’s a genre of gaming that has been around since the 1990s.

MUD worlds consist of a collection of interconnected rooms that form a virtual space. Players move between these rooms and traverse the world by typing commands with the keyboard. The world usually has a theme or setting which informs gameplay, characters and goals. Their purposes have been both educational and for the sake of entertainment.

So why MUDs? The simplicity of the interface makes them great spaces for imagination, diversity and quantity of content. In a graphical game, only worlds or gameplay that have been graphically produced can been shown. In a MUD however, the world is generated through imagination inspired by the text. This means that different MUDs can have the similar code and still be radically different in the expression of their worlds. In one, player’s might throw fireballs, in the other they might fire arrows, in another they might fire a gun. The code would look very similar; get strings from client to server and vice versa. The player’s experience would be radically different.

An educational MUD called ‘Diversity University’ [2] was created in 1993 by Jeanne McWhorter. Players could access a virtual university and even attend lectures and classes that were ‘held’ in its virtual world. Students even created Dante’s Inferno [3] inside the MUD to learn about it.

Complex human interaction and systems can be produced by the community of players in ways that graphical games cannot replicate. An example of this is Achaea [4] a MUD that has six player run cities with their own councils, governments, ministries and cultures. The social interaction that this game allows players to engage is only possible because the medium allows such freedom.

Freedom of imagination is the strength of all MUDs, the freedom to create the virtual world in the minds of the players.

From Mume [5] which represents Tolkien’s Middle Earth, to Discworld Mud [6] which depicts Terry Pratchett’s Discworld, to the many other virtual worlds [7] [8] [9] [10] created in MUDs, the complexity, detail and size of the worlds is phenomenal. Players can explore, socialise, build and archive to a serious degree of immersion and detail. From complex AI interaction to player run city states to educational literary works, the freedom with which MUDs can express virtual worlds is great.

However, MUDs have some common limitations, limitations which inhibit that freedom of imagination and constrain a player’s sense of immersion in the virtual world, constrain their sense of ‘being there’.

RenegadeSurvivor.co.uk has been built with the sole purpose of overcoming some of these limitations.

# Problem Articulation / Technical Specification

The limitations of MUD servers today – the cross-room interaction.

Explain further the issues that this causes in terms of creating a world and believable space. How can players interact if they cannot sense each other or the changes in the world? Talk about the great features of muds being inhibited by this i.e – dragons contained to one room. Describe the situation as is.

Talk about who might be affected by these issues – stakeholders.

Give criteria by which the solutions success can be checked against.

# Literature Review

**Method of delivery** – technologies to deliver the game : NodeJs, Angular 4, Java.

Aardwolf – mud client (installed),telnet, java telnet, flash client.

Achaea, lusternia – web client.

Mume – mud client (installed), web client

Materiamagica, discworldmud – mud client (installed)

Legendsofkallisti – telnet, mud client (installed), java client.

Forgotten kingdoms – web client.

**Connecting players together** - socket.io and pusher, NodeJS and any others

**Easy update of content on web page** – frameworks that allow instant update of content, angular, react

**Path finding** – algorithms for finding the quickest routes from A to B. A\*, Dijkstra

# The Solution Approach

The Features that solve the problem – how do its features meet the objectives in the problem statement.

Face direction, sight lines, sound detection, smell detection, interactive lighting, objects to hide in, explosions and time

# Implementation

Backend and frontend technologies used. Classes and their purposes. Flow diagrams. Common use case diagrams.

# Testing: Verification and Validation

Manual testing and test cases. Important feature tests and reports.

# Discussion: Contribution and Reflection

Has it worked. Limitations. Lead on to future work.

# Social, Legal, Health & Safety and Ethical Issues

Words:

# Conclusion and Future Improvements

Words:

# References

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# Appendices