

Error404:TeamNotFound

Design Document for:

Maze Hunt

The Ultimate Maze Hunting Game

“A work in progress”

Saturday, February 29, 2020



This work is licensed under a [Creative Commons Attribution 2.5 License](https://creativecommons.org/licenses/by/2.5/).
You may redistribute and modify it freely, including for commercial use, so long as you provide attribution to Chris Taylor as the author of the original template.

Table of Contents

NAME OF GAME	1
DESIGN HISTORY	5
VERSION 1.10	5
VERSION 2.00	5
VERSION 2.10	5
GAME OVERVIEW	6
PHILOSOPHY	6
<i>Philosophical point #1</i>	6
<i>Philosophical point #2</i>	6
<i>Philosophical point #3</i>	6
COMMON QUESTIONS	6
<i>What is the game?</i>	6
<i>Why create this game?</i>	6
<i>Where does the game take place?</i>	6
<i>What do I control?</i>	6
<i>How many characters do I control?</i>	6
<i>What is the main focus?</i>	6
<i>What's different?</i>	7
FEATURE SET	7
GENERAL FEATURES	7
MULTI-PLAYER FEATURES	7
EDITOR	8
GAME PLAY	7
THE GAME WORLD	8
OVERVIEW	8
WORLD FEATURE #1	9
WORLD FEATURE #2	9
THE PHYSICAL WORLD	8
<i>Overview</i>	8
<i>Key Locations</i>	8
<i>Travel</i>	8
<i>Scale</i>	9
<i>Objects</i>	8
<i>Weather</i>	9
<i>Day and Night</i>	9
<i>Time</i>	10
RENDERING SYSTEM	10
<i>Overview</i>	10
<i>2D/3D Rendering</i>	10
CAMERA	8
<i>Overview</i>	8
<i>Camera Detail #1</i>	10
<i>Camera Detail #2</i>	10
GAME ENGINE	8
<i>Overview</i>	8
<i>Game Engine Detail #1</i>	10
<i>Water</i>	10

<i>Collision Detection</i>	8
LIGHTING MODELS	11
<i>Overview</i>	11
<i>Lighting Model Detail #1</i>	11
<i>Lighting Model Detail #2</i>	11
THE WORLD LAYOUT	9
OVERVIEW	9
WORLD LAYOUT DETAIL #1	12
WORLD LAYOUT DETAIL #2	12
GAME CHARACTERS	10
OVERVIEW	10
CREATING A CHARACTER	10
ENEMIES AND MONSTERS	10
USER INTERFACE	11
OVERVIEW	11
USER INTERFACE DETAIL #1	14
USER INTERFACE DETAIL #2	14
WEAPONS	12
OVERVIEW	12
WEAPONS DETAILS #1	15
WEAPONS DETAILS #2	15
MUSICAL SCORES AND SOUND EFFECTS	16
OVERVIEW	16
RED BOOK AUDIO	16
3D SOUND	16
SOUND DESIGN	16
SINGLE PLAYER GAME	14
OVERVIEW	14
SINGLE PLAYER GAME DETAIL #1	17
SINGLE PLAYER GAME DETAIL #2	17
STORY	14
HOURS OF GAME-PLAY	14
VICTORY CONDITIONS	14
MULTI-PLAYER GAME	15
OVERVIEW	15
MAX PLAYERS	15
SERVERS	15
CUSTOMIZATION	15
INTERNET	15
GAMING SITES	18
PERSISTENCE	15
SAVING AND LOADING	18
CHARACTER RENDERING	16
OVERVIEW	16
CHARACTER RENDERING DETAIL #1	19
CHARACTER RENDERING DETAIL #2	19
WORLD EDITING	20

OVERVIEW	20
WORLD EDITING DETAIL #1	20
WORLD EDITING DETAIL #2	20
EXTRA MISCELLANEOUS STUFF	18
OVERVIEW	18
JUNK I AM WORKING ON... ..	21
“XYZ APPENDIX”	22
“OBJECTS APPENDIX”	22
“USER INTERFACE APPENDIX”	22
“NETWORKING APPENDIX”	22
“CHARACTER RENDERING AND ANIMATION APPENDIX”	22
“STORY APPENDIX”	22

Design History

The goal of this history is to show the iterations the game went through, and my experience developing this game.

Version 1.00

I initially planned on making the maze generate procedurally and created a procedural generation system, after taking a break on the game for my winter exams I decided that I was unhappy with my implementation of this and abandoned it entirely.

Version 2.00

I then worked on getting a game server up and running, I found this to be more difficult than initially expected after a week of troubleshooting I realized that the issue was my WIFI had a firewall that was blocking the game server. I found it a challenge to synchronize the server variables correctly through the server and this led to many of my delays and issues in the development of this game.

Version 2.10

After I had a game server I designed my player movements and implemented an A* plugin to allow enemies to navigate the maze.

Version 2.20

After I had implemented movement I added attacks and health scripts. I also added a simple leveling system.

Version 2.30

I then designed the maze and the three simple boss designs.

Game Overview

Philosophy

Philosophical point #1

This game is not trying to reinvent the wheel, it follows a standard multiplayer dungeon crawler format of killing minions to get stronger, to beat the bosses, to reach the end.

Philosophical point #2

The main goal of this game was just to get experience developing a game from start to ‘nearly’ finish and to learn how the various aspects of game design work.

Common Questions

What is the game?

This game is a standard dungeon crawler, with multiplayer functionality.

Why create this game?

I really like dungeon crawler games.

Where does the game take place?

This game takes place in a standard fantasy world.

What do I control?

The player will control their own journey through the maze.

What is the main focus?

The main focus is making it to the end of the maze and beating the bosses.

Feature Set

General Features

Fun Maze.
Character selection

Multiplayer Features

Up to 4 players co-op.

Gameplay

Challenging bosses
Leveling system
Maze exploration

The Game World

Overview

There is one large maze, with an entry room and a final boss room.

The Physical World

Overview

Describe an overview of the physical world. Then start talking about the components of the physical world below in each paragraph.

The following describes the key components of the physical world.

Key Locations

There is an entry room, where you learn what is happening. Inside the maze, there are two bosses and several other rooms all with enemies. There is a final boss room.

Travel

The players walk or dodge through the world.

Objects

There are health potions scattered around the map.

Camera

Overview

The Camera will follow the player

Game Engine

Overview

I used unity to create this game.

Collision Detection

Our game engine handles collision detection really well.

The World Layout

Overview

You start in a neutral room, enter the maze, with small rooms along the way. Reach a boss, then continue with the maze upon completing the maze you must defeat a final boss.

Game Characters

Overview

There are four characters to choose, Two melee and two ranged.

Creating a Character

You can choose one of four characters.

Enemies and Monsters

Minion 1 – this is likely the first enemy you will see. They follow you through the maze and will attempt to bump into you.

Minion 2 – Will move close to you and stay a little bit away firing projectiles.

Boss 1- Fires projectiles slowly in a circle around them, will spawn minion 1's.

Boss 2 – Same as boss 1 with more health.

Final boss – Stronger than other 2 bosses, still fires projectiles in ring, will swing arms around for a fixed period and then accelerate in a random direction. It will then return to the middle and go back to swinging its arms.

User Interface

Overview

When game is launched, there is a go button to join the server and a choice of characters. In the game there is a button to disconnect from the server. When you level up you have a choice of what stat you want to level up.

Weapons

Overview

There is a choice of two weapons melee or ranged. These can both be upgraded as you level up.

Single-Player Game

Overview

Clear the maze, beat the boss.

Story

You are a hero sent into the maze to defeat the monsters inside.

Hours of Gameplay

20 minutes max

Victory Conditions

Defeat the final boss.

Multiplayer Game

Overview

Any players who want to play join the server, assuming that there are four or less players they will automatically join the same server.

Max Players

I arbitrarily decided that four was a good maximum number of players.

Servers

This game uses the Photon PUN client for multiplayer functionality. It is client-server based.

Customization

By choosing different characters.

Internet

Through a server.

Persistence

The world will not persist when all players leave the game the server data is gone.

Character Rendering

Overview

Sprites.

Extra Miscellaneous Stuff

Overview

I am currently using a plugin for A* pathfinding, but I hope to implement my own version of this in the future.