MADD Dungeon Game Project

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Project Design

1 Introduction

1.1 Purpose of this Document

This document is produced to aid an effective and sensible design of the dungeon game project to be produced by MADD Entertainment, and shall therefore be concise but complete in its description of all the parts therein. The key parts contained hence forth and upon completion of this document are the functional requirements, plans and diagrams of the code as it shall be made, an entire description of all sensible parts to be included, as well as details following that contain the very smallest parts of an ideal project upon completion.

1.2 Project Outline

This program is to be implemented in the form of a recursive dungeon environment with a potentially infinite length that is procedurally generated level by level for the player(s) to explore. It shall contain a number of different dungeon environments, with increasing difficulty and improved loot at each level advanced into.

A player will enter a dungeon at level one and upon completing that will be able to enter into the next level, this will continue and every fifth level will end in a teleport to a safe area. If a player dies they will 'respawn' in the last entered safe area and have to re-conquer any previously completed levels after that safe area. When a level is completed a new level will be generated over the previous level, so there can be no going back to previous levels. This generation will be procedural and based on a general map generating algorithm plus a randomly picked environment style for that particular level.

At later stages of development the game will offer a multiplayer environment where players can enter dungeons together and fight side by side, these games will be temporary and not saved to anywhere if the hosting server or computer is closed, all loot from this will likewise be lost. At the start of these servers players will all begin with nothing and no level, and have an entirely new start on each multiplayer game they join with no relation to singleplayer characters they own.

2   General Precursory Notes

2.1   Proposed Names

At the recent meeting of 06/03/2013 it was decided that before development could continue a name was necessary for the game, the name *Crowfall* is currently the working name of the project, as follows are other suggested names chosen from a significant quantity all composed during that same meeting.

− *Ravensgate*
− *Ravensgaul*
− *Halls of Valhalla*
− *Ravenscrest*
− *Heart of Earth*
− *Greyheart*
− *Crowhaven*

2.2   Webspace

To compose a complete design that covers all aspects of the project, it is important to note all proposed additions to the webspace currently under construction for MADD. The proposed additions, currently under development, are a change of password form, an ability to change your own profile description, a reset password form, a tasks and group tasks planning system, and a 'status' or news system, so that people can update the current state or recent development news relating to the project.

3   Diagrams and Planned Implementations

3.1   Use Case Diagrams

3.1.1   Main Menu
3.1.2   Save Game
3.1.3   Load Game
3.1.4   Gameplay – Left Click
3.1.5   Gameplay – Right Click
3.1.6   Gameplay – Forwards
3.1.7   Gameplay – Backwards
3.1.8   Gameplay – Right
3.1.9   Gameplay – Left
3.1.10   Pause Menu

3.2   Significant Classes

4   Description of the Parts

4.1   Data

4.1.1   Game Files

Game files will be developed and stored within the Unity file structure, with actual scenes being clearly kept separate from all other general files by storing the scenes in a specific folder. Once finished the game will be packaged using the usual Unity export options, and from that the game files will be installable on a user's computer in a location of their choice.

4.1.2   Save Files

The only file that needs to be saved is one that references a player's skill levels, items, progression, and the like, to be described hereafter as character data. Character data will be saved under a user's My Documents folder under My Games/MADD/<character name>.sav.

4.2   Gameplay

4.2.1   User Interfaces

The first key graphic relating to the program is the program icon, an exact design of which is to be decided upon, following this there will need to be a splash screen that displays immediately before the program loads. This will have an image relating to the game and the game title, quickly followed by a loading screen with similar graphics and game tips.

The next user interface will be a menu, with an option to start a new game, load a game, play online, or change the game settings. The menu will have fantasy style buttons and a graphical background with animation and graphics relating to the game.

Once in the game there will be a surrounding 'hud' that will contain all buttons on an appropriate fantasy style user interface, with an inventory that can be opened up in the bottom right corner, and a list of spells or skills to the right hand side.

The pause menu can be opened by pressing escape at any time during gameplay and will pause any ongoing gameplay until closed. It will have the options to load a game, change game settings, and quit. There will be no options to save, since saving will be done automatically at every fifth level.

Multiplayer will have an interface that lists all servers, as already demonstrated in the demo multiplayer level created by Mike.

4.2.2   Armour and Weapons

There will be a number of weapons varying in skill level that will be obtainable as the player gets higher levels, there will also be separate types of weapons that will drop in

each area, as well as generic weapons available from merchants. There will be both ranged and melee weapons.

Armour will be similar and likewise scale in its strength with the player and better armour will drop as the player gets better.

It should be noted, in case it is unclear above, that items that drop have damage/strength/etc that are scaled based on the player's abilities at the time they drop, but an item does not scale or change once a player has it, and they will have to obtain another one of that item as a new drop when they have new skills for that new item to have better stats than the old item.

The following armour types were decided upon in the meeting on the 27/02/2013.

— *Cloth*
— *Leather*
— *Fine Cloth*
— *Magician's Robe*
— *Master's Robe*
— *Chainmail*
— *Iron*
— *Steel*
— *Scale*
— *Great Steel*
— *Paladin*
— *Holy Steel*
— *Demonic*
— *Dragonscale* [Boss Drop Only]
— *Mythic Dragonscale* [Extremely Rare Boss Drop Only]

The following weapons and their types were decided upon in the meeting of the same date.

Sharp 1H
— *Wooden Sword*
— *Wooden Longsword*
— *Iron Swor*d
— *Iron Longsword*
— *Steel Sword*
— *Steel Longsword*
— *Holysteel Sword*
— *Holysteel Longsword*
— *Demonic Blade*
— *Demonic Dagger*
— *Greatbane's Highsword* [Boss Drop Only]
— *Flightcall* [Boss Drop Only]

Sharp 2H
— *Wooden Claymore*
— *Iron Claymore*

- *Steel Claymore*
- *Holysteel Claymore*
- *Demonic Claymore*
- *Vilestorm* [Boss Drop Only]

Blunt 1H
- *Wooden Mace*
- *Iron Mace*
- *Iron Flail*
- *Steel Mace*
- *Steel Flail*
- *Holysteel Mace*
- *Holysteel Flail*
- *Demonic Mace*
- *Demonic Twin-Flail*
- *The Champion's Crosier* [Boss Drop Only]

Blunt 2H
- *Wooden Hammer*
- *Stone Hammer*
- *Iron Hammer*
- *Steel Hammer*
- *Demonic Hammer*
- *The Greatrock* [Boss Drop Only]

Piercing 2H
- *Wooden Spear*
- *Iron Spear*
- *Steel Spear*
- *Steel Lance*
- *Holysteel Spear*
- *Holysteel Lance*
- *Demonic Spear*
- *The King's Flagstaff* [Boss Drop Only]

Thrown
- *Rocks*
- *Iron Throwing Knives*
- *Steel Throwing Knives*
- *Holysteel Throwing Knives*
- *Demonic Throwing Knives*
- *Master Balanced Blades* [Boss Drop Only]

Bow
- *Wooden Bow*
- *Iron Bow*
- *Steel Bow*
- *Holysteel Bow*
- *Demonic Greatbow*
- *Lightbane* [Boss Drop Only]

Crossbow
– *Wooden Crossbow*
– *Iron Crossbow*
– *Steel Crossbow*
– *Holysteel Crossbow*
– *Demonic Crossbow*
– *Kalhallen* [Boss Drop Only]

Arrows
– *Wooden Arrows*
– *Iron Arrows*
– *Steel Arrows*
– *Demonic Arrows*

Staves
– *Wooden Staff*
– *Iron Staff*
– *Steel Staff*
– *Holysteel Staff*
– *Apprentice's*
– *Mage's Staff*
– *Master's Staff*
– *Crowfall's Might* [Boss Drop Only]

4.2.3 Combat

Combat will be based on a user's clicks, and a monster can be selected for constant attack, or a user can click between monsters to attack different monsters with each blow. Combat damage will be dealt based on the attacker's strength and weapon damage and the defender's defence and armour values. There may also be resistances for different monster types.

4.2.4 Town and Starting Environment

When the player starts a new game they will begin in a town, where a number of tips will introduce the player to the game and set the player up for continued interaction therewith.

This town will contain all in-game merchants and shops, and will be a safe area to which the player can return to buy and sell items as well as spells and possibly pay for training or start quests in later updates.

4.2.5 Dungeons

The following dungeon types were decided upon as of the meeting of the 20/02/2013.

– *Haunted Fort, containing Undead*
– *Mines, containing Goblins*

— *Caves, containing Trolls*
— *Lava, containing Demons*
— *Tombs, containing Vampires*
— *Underground Camp, containing Mercenaries*

4.2.6 Merchants

Merchants can be found in the town and will offer generic armour types (not rare armours or armour that is higher level than the player) as well as potions and other useful items in exchange for money obtained by the player by selling loot or killing monsters.

4.2.7 Attributes

A player has attributes that are added to as a player levels up; a player will get one extra attribute point per level and be able to spent this on any attribute they like. These are as follows:

Power Skills

— *Strength*
— *Vitality*
— *Toughness*

Sorcery Skills
— *Dark*
— *Holy*
— *Mana*

Agility Skills
— *Dexterity*
— *Accuracy*
— *Bowmanship*

4.3 Multiplayer

4.3.1 Setup and Proposed System
A multiplayer game will be hosted on a user's computer by way of the multiplayer menu, from this a user will be able to specify how many users can connect to that user's computer to join the game, as well as any password, and the name of the server. There will also be a menu that allows a user to change their online name.

Once a user connects to an online game then they will begin the game as if they have created a new player with starter items, attributes, and skills. There will be no dungeon progression other than what is achieved by the player(s) during the length of time that the multiplayer level is active, once the game host is closed the multiplayer progression is lost.

5   Document Changes

Document Version	Date	Reason for Change