Design Document - Necromancer Game VR

Project Title: Necromancer Game VR

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URL for project GIT repo: https://github.com/jack-fletcher/Necromancer-Game

Youtube link:

Module: PRCO304

Version	Date dd/mm/yyyy	Description of Change
1.0	24/01/2020	Initial creation

Contents

Glossary

Throughout this document, several key terms will be used. To clarify their meaning, definitions are included below.

- *App, app, The App, the app*
    - The proposed software application described in this document
- *GUI*
    - Graphical User Interface
- Unity, unity, unity engine
    - The game engine the application is being created in. By default, this refers to the 2019.2.3f1 version of the Unity engine.
- Blender
    - The main 3d modelling software. Version 2.9 of Blender will be used

Introduction

The individual parts that comprise the proposed design are described in designated sections of this document. See the Concept Overview section first to gain an understanding of the core concept of the design. After doing so, the remainder of the document has no intended read order, although certain sections may refer to others or rely on information from them to be fully understood.

Scope

This document is a high level description of the proposed design for the application created.The components of the design, their functions, and how they connect to each other are described.

Aim

This document has the following aims:

- To describe the implementation of the project's requirements

Technical Document

For technical details such as software architecture, coding conventions, and other related information, see Technical Document - Necromancer Game.

Specification

Concept

This should be apparent in the project proposal

Story

You’re a necromancer who’s been wronged one too many times by the village - Get your revenge through systematically taking out high ranking members of the village until they’re all gone

Setting

This will be set within a medieval town; involving magic (necromancy) and basic pagan religions.

Game Loop

Actions

Dig Graves
Avoid enemies
Get skeletons
Create undead soldiers
Attack villagers in a tower defence style gameplay

Objectives

Get enough units to survive attacking the village

Enemies

Villagers

Heavy Units

Heavy units will be the equivalent to a strongman; slower but more health/damage than other units.

Light Units

Light units will be the typical generic unit, with medium stats as a baseline.

Pelters(Stone)

Pelters are a short ranged unit, with low health and higher attack speed.

Bailiff

Bailiffs are the target, you kill this unit to win the wave.

Platforms

Hardware

The app is designed to run on x86 CPUs.

Software

Microsoft Windows 10 is the target operating system, however the application will be developed using the Unity game engine, so builds within linux and macOS may be viable. The application will only be tested using Windows 10 devices however, so support for linux and macOS is limited.

Development System

Development will primarily take place on 64-bit Windows 10 machines using the Unity engine. Model and character rigging will be developed within Blender to allow for use within commercial projects. Any relevant textures will be created within Photoshop or GIMP.

Intended Usage

Typical Usage Pattern

1. Leave house to go to village
2. Gather information on what people have died today
3. Steal the skeletons of those people
4. Create units from the skeletons
5. Use the skeletons to raid the village weekly

User Stories

See Appendix > User Stories.

Functions

The functions of the app are described in this section.

Game World

House

House should contain typical ‘Necromancer’esque things, such as a pentagram, various decorative potions, and a rack for applying skeletons to. These racks create your ‘skeleton army’ for phase two of the day.

Graveyard

The graveyard is where the player gets bones; there will be people patrolling the area that the player has to avoid with a small detection radius; at a minimum detecting via a distance/sight, however this may be expanded to use sound. The player must dig bones and take them back to the house without being caught. Should they be caught, they'll be imprisoned for the night and unable to get any units.

Village

The village will contain various decorative houses with potential for additional items, however it serves as an area to get information on recently deceased individuals, which the player can use as information on whose grave to dig for what specific unit.

Graphics

Landscape

Art Style

Low Poly
Using the poly design to drive art style rather than textures

Colours

Browns, Blacks and Dark Greens for the graveyard/House with richer base colours such as red,blue,green for decorations., with lighter variations on this for the village areas.

Influences

Animation

Animations can be quite basic; due to some issues I had with physics driven combat previously, I'm going to opt for a raycast that shoots forward and just checks for an enemy within a certain range.

Front End

GUI

I really liked Superhots main menu, where you had to put certain game disks into a TV and put on a hat. Similarly, I'd like to put potions labelled 'Start Game' 'Options' Into a cauldron to move between menus.

Data Storage

Local Data

Data will be stored to save player preferences, such as graphical and audio preferences that are chosen within the game so they can be easily loaded.

Legal and Ethical Considerations

Outside sources will be used for audio and possibly a great deal of visual assets. These will be commissioned specifically for this project, however these will be credited within the Github repository.

Probuilder/Progrids will be used to whitebox the areas within the game. These are prototyping tools that should not make it into the final product, however credit will be given for assistance within the prototyping phase.

Blender is used specifically to avoid legal implications in using 3DS Max within what could potentially be a commercial product, however this will have to be communicated with any people who I commision work from.

The oculus integration package may be used; currently it’s unclear whether this has to be credited however this will also be done in the readme.