

This is the story of the game. There was a person (choose boy or girl?) who was living at home but very unhappy. They are in fact depressed. The kid goes out one day and falls into an adventure. On this adventure she discovers the world around her, discovered other people have the same issues as her, discovers magic and finally discovers herself.

**Cupantae.ie Games**

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**Game Two**

**Technical Design Document**

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# List of Features Captured from the Game Design Document

## List of features based on the GDD

Third person

Game world, including

3D objects

Characters

Weapons

Buildings with walls, corridors, doors, stairs, rooms

Windows platform deployed

Background story

Opening scene

Different levels:

Varying difficulty

Varying challenge

New levels introduce new weapons

Multiplayer

Different destructible weapons

Audio and sound effects

Variety of enemies (two types of zombies)

Realistic AI of zombies

Scoring system

Comprehensive/informative HUD

Menus

Lighting effects

Interactive objects

Staff ID cards

Vending machines

# Choice of Game Engine

The game will be created using the Unity3D game engine. There are many other game engines that we could have gone for, and these include:

* **Unreal Engine** – The undisputed heavy weight of game engines. If you want literally anything done in a game – Unreal can do it. This Rolls Royce of games engines is even free to download, free to make a game in. But there is one stumbling block. The engine is in C++. We, rather I Donal, do not know C++. I have a fair idea about a lot of C++ but when you are beginning to chase out bugs from the project and your eyes red from staring at the screen, you do not want to be feeling your way around the engine in the dark. In this regard, we know Unity better from an interface and C# point of view.
* **GameMaker Studio** – Sells itself as a game engine that does not require programming, of course then you proceed to learn its programming language to be able to use the game to any degree. Great engine with that said, and brilliant for 2D.
* **Godot** – This is a free (MIT Licence) game engine. There is a fair amount of documentation out on the net about it, as engines go it is reatively young.
* **CryEngine** – There is a fair amount to learn in this engine. It is simply not as popular amoungst hobbiests, which is what we are really at the moment (none of us are doing this game as their full time job). CryEngine gives beautiful graphics, amazing characters and environments – much like Unreal or Unity.
* **Amazon Lumberyard** – I heard about this game engine a few years ago – 1 or 2 years ago – but I have not heard much since. Says more about me than it does about the engine, or does it? Basically game libraries on AWS… why bother really when we are not looking for massive scaling.
* **RPG Maker** – This is a brilliant choice for someone who decides to make a game. People have made themselves rich from RPG Maker games. But it simply not we are looking to do – an RPG I mean (we’ll take the money).

The reason all these other game engines are covered here is to show any questioning reader that we have thought of various other game engines. There are other programming languages and engines out there of course, many more that are not on the list, but as beginners that will be needing a lot of help, that are looking for a quick development time and turn around for the project we have decided that Unity is the correct choice for us.

When this TDD was being written Unity was up to version 2019.1. When we do decide to begin coding we will freeze the version of Unity and just continue on with that version. Also, Unity updates their software a lot, a few times a year with smaller updates and major updates every few years. These updates can, I have learnt from experience, have drastic results if you load your older project into a newer version of Unity. Also we do not want to go with the latest version from a bug point of view. Unity is pretty huge and does have a few bugs in it, and with new version coming out all the time, there are usually some small bugs in the system.

Nevertheless, Unity is a great choice for us.

# Schedule (Gantt Chart)

|  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |
| --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- |
| Task | Week 1 | Week 2 | Week 3 | Week 4 | Week 5 | Week 6 | Week 7 | Week 8 | Week 9 | Week 10 | Week 11 | Week 12 | Week 13 | Week 14 |
|  | 17-Jun-19 | 24-Jun-19 | 01-Jul-19 | 08-Jul-19 | 15-Jul-19 | 22-Jul-19 | 29-Jul-19 | 05-Aug-19 | 12-Aug-19 | 19-Aug-19 | 26-Aug-19 | 02-Sep-19 | 09-Sep-19 | 16-Sep-19 |
| Game Design Document Approval |  |  |  |  |  |  |  |  |  |  |  |  |  |  |
| Technical Design Document Approval |  |  |  |  |  |  |  |  |  |  |  |  |  |  |
| Character, Level, Weapons & Objectives Approval |  |  |  |  |  |  |  |  |  |  |  |  |  |  |
| Create Levels |  |  |  |  |  |  |  |  |  |  |  |  |  |  |
| Create Characters |  |  |  |  |  |  |  |  |  |  |  |  |  |  |
| Create Objectives & Weapons |  |  |  |  |  |  |  |  |  |  |  |  |  |  |
| Create Triggers and Events |  |  |  |  |  |  |  |  |  |  |  |  |  |  |
| Coding |  |  |  |  |  |  |  |  |  |  |  |  |  |  |
| Audio – Music (Soundtrack) |  |  |  |  |  |  |  |  |  |  |  |  |  |  |
| Audio – Sound Effects |  |  |  |  |  |  |  |  |  |  |  |  |  |  |
| Release For Testing |  |  |  |  |  |  |  |  |  |  |  |  |  |  |
| Testing |  |  |  |  |  |  |  |  |  |  |  |  |  |  |
| Create Website for journaling and Progress |  |  |  |  |  |  |  |  |  |  |  |  |  |  |
| Create Social Media For Game and Post Progress |  |  |  |  |  |  |  |  |  |  |  |  |  |  |
| Create Walkthrough |  |  |  |  |  |  |  |  |  |  |  |  |  |  |
| Play final version of the game |  |  |  |  |  |  |  |  |  |  |  |  |  |  |
| Put Game on Itch |  |  |  |  |  |  |  |  |  |  |  |  |  |  |
| Put Game on Stream |  |  |  |  |  |  |  |  |  |  |  |  |  |  |

Donal Donal & Gerry Graphics (Sophie & Cairbre) Testers Team (Donal, Gerry, Graphics) All Unassigned

## Contributors

As can be seen in the Gantt chart above roles have been colour coded. The color codes have been assigned to alivate pressure from team members. Whatever your color is, that is what your role is and no more. In this regard we have the following roles

|  |  |
| --- | --- |
| Game Design Document Approval | Team |
| Technical Design Document Approval | Team |
| Character, Level, Weapons & Objectives Approval | Team |
| Create Levels | Graphics (Sophie & Cairbre) |
| Create Characters | Graphics (Sophie & Cairbre) |
| Create Objectives & Weapons | Graphics (Sophie & Cairbre) |
| Create Triggers and Events | Donal & Gerry |
| Coding | Donal & Gerry |
| Audio – Music (Soundtrack) | Unassigned |
| Audio – Sound effects | Unassigned |
| Release For Testing | All |
| Testing | Testers |
| Create Website for journaling and Progress | Donal |
| Create Social Media For Game and Post Progress | Donal |
| Create Walkthrough | Donal |
| Play final version of the game | All |
| Put Game on Itch | Donal |
| Put Game on Stream | Donal |

Note:

‘Team’ is Donal, Gerry, Sophie, Cairbre

‘Graphics’ is Sophie and Cairbre

‘Testers’ is Martin, Barry, Axcelle

‘All’ is Donal, Gerry, Sophie, Cairbre, Martin, Barry, Axcelle

# High level diagrams to illustrate software design

## Technology Diagram

Development Platform

* Unity3D (2019.x.x)

Code

* Visual Studio 15 (C#)

Textures

* Blender
* Photoshop

**Technology**

**Used**

Level Design

* Blender (Grease Pencil)
* Photoshop
* Graph Paper

Character Design

* Blender
* Photoshop

Audio

* Audacity

## Gameplay Diagram

This simple flow chart show game play will work (See appendix 1 for icon meaning).

**Start Level**

**\*Object = Interactive Object**

**Move Left or Right**

Yes

Yes

**Fight Enemy**

**See Enemy**

**Or Object**

**Fight**

No

Yes

**Object**

# Appendix 1 – Flow Chart Definations.

