

Level Design Report

[Github Repository](https://github.com/wt-student-projects/level-design)

B00235610| 3D Level Design | 10/01/2017

Table of Contents

[Design 3](#_Toc472253443)

[Narrative description 3](#_Toc472253444)

[Settings, Theme, Location 4](#_Toc472253445)

[Setting 4](#_Toc472253446)

[Theme 4](#_Toc472253447)

[Location 4](#_Toc472253448)

[Player Experiencce 4](#_Toc472253449)

[Level Features 4](#_Toc472253450)

[Realistic Terrain 4](#_Toc472253451)

[Clues 4](#_Toc472253452)

[Loot 4](#_Toc472253453)

[Enemies 5](#_Toc472253454)

[Usability 5](#_Toc472253455)

[PC Controls 5](#_Toc472253456)

[Video Research 5](#_Toc472253457)

[HDR 5](#_Toc472253458)

[Motion Blur 5](#_Toc472253459)

[Depth of Field 5](#_Toc472253460)

[Inspiration 5](#_Toc472253461)

[Story 6](#_Toc472253462)

[Game Story 6](#_Toc472253463)

[Level Story 6](#_Toc472253464)

[Interactivity 6](#_Toc472253465)

[Objectives 6](#_Toc472253466)

[Obstacles 6](#_Toc472253467)

[Set Pieces / Scripted Events 7](#_Toc472253468)

[Visual Development 7](#_Toc472253469)

[Style 7](#_Toc472253470)

[Colour Palette 7](#_Toc472253471)

[Lighting 7](#_Toc472253472)

[Top-Down Layout and concept art 7](#_Toc472253473)

[Level Layout 8](#_Toc472253474)

[Screenshot 8](#_Toc472253475)

[8](#_Toc472253476)

[Engine 9](#_Toc472253477)

[Project Planning and Control 10](#_Toc472253478)

[Allocation of tasks 10](#_Toc472253479)

[Project plan 10](#_Toc472253480)

[Duration, Start and End dates 10](#_Toc472253481)

[Tasks and sub-tasks 10](#_Toc472253482)

[Gantt chart 11](#_Toc472253483)

[Process description 12](#_Toc472253484)

[Playtesting 13](#_Toc472253485)

[Method 13](#_Toc472253486)

[Outcomes 13](#_Toc472253487)

[Expected Results 13](#_Toc472253488)

[Final Thoughts 13](#_Toc472253489)

[Appendix 1 - Survey Template 14](#_Toc472253490)

[Appendix 2 – General Screenshots 15](#_Toc472253503)

# Design

The level that will be designed will be from the game Scholar, a first person magic quest game that takes places in a unique environment. The following section of the report sets out the general theme and setting of the game and the level.

## Narrative description

You play as ‘’The Traveller” a nameless entity that is travelling across the Kingdom of Dalriada to its capital Kilcreggan. In your possession is the ‘Tome’ a scripture filled with cryptic symbols that effect the world once articulated. Your quest is to take the valuable scripture to a safe haven where it can be studied for the better of the wider kingdom. The question that must be answered though, can you master the Tome’s secrets in order to achieve your goals, can you effectively wield its power to protect you.

## Settings, Theme, Location

### Setting

As alluded to in the narrative description the level is set in the Kingdom of Dalriada in a period known as the Age of Discovery commonly referred to as the Second Age. The exact date is not known however it is set in the final days of the Second Age with the completion of the journey starting the Age of Knowledge or Third Age.

### Theme

The theme of the game is medieval fantasy taking various style elements from Celtic and Medieval history. The game’s theme encompasses large sprawling forests with small medieval towns that serve to give the game a unique look and theme. The theme is meant to entrance the player in its beauty while completely masking the dangers that lie around the player.

### Location

You start in an undisclosed forest in the Kingdom of Dalriada on the way to the nearest town. However, prior to the start of the level you understand that it is getting dark and you are on your way to a nearby campfire to sleep and rest. However, the campfire lies uninhabited except for one sole body laying by the fire. With suspicions raised you decided to investigate the fate of the occupants of the camp site.

## Player Experiencce

The player is due to arrive at a camp site in the near area. The player upon arriving will perform investigative work finding clues at the site to find out what happened. Once all clues have been revealed the player is supposed to successfully survey the area revealing a group of monsters that have been killing travellers through the area for a long time. The player will need to deploy their magic skills to defeat said enemies, once they have they can acquire loot for the future travels.

## Level Features

### Realistic Terrain

The level itself will be set in an open area in a forest. To give the illusion that this is a real place the forest itself will be expansive comprising of various trees, bushes and general features and will be quite large taking a number of minutes to walk from one section to the other. There will be variations in terrain height and will include multiple paths to ensure it doesn’t feel like a one direction piece of road as well. To ensure that the player doesn’t go beyond the boundaries of the level, mountains and invisible walls will be inserted to keep the play on track.

### Clues

The campsite itself will have various clues about, to interact with said clues the user will press a button revealing an exposition dump to fill the player in on the narrative. Once all clues are revealed the story will continue showing the location to go to investigate further.

### Loot

The level will comprise of three loot locations. The first is loot contained under a bridge that must be crossed to get to the campsite. The second is at the campsite itself, there will be chests located next to one of the tents. Finally, there will be a chest located at the location where you kill the monsters which is meant to represent their spoils from their killing adventures.

### Enemies

The climax of the level is a battle between the player and a group of enemies. The feature of this level is the ability to use magic to battle and eliminate the enemies. The enemies will have a simplistic AI feature which will track down and try to eliminate the player.

## Usability

### PC Controls

To make the level familiar we follow a first person style movement system with the following controls. The direction of the camera is of course set by mouse movement as you would expect in any first person game.

* WASD – Movement Keys
* Q & E – Switch Spell Keys
* Mouse Right – Activate Button
* Mouse Left – Cast Spell

## Video Research

To take full advantage of the engine’s power I researched various advanced graphics effects to generally improve the quality of the games graphics. The effects used are listed below.

### HDR

To make the game more immersive we utilise HDR known as High Dynamic Range which is a new technique that makes a games image more photorealistic by adding a post processing step where lighting values are no longer clamped and a greater dynamic range of lighting values is applied to the frame resulting in more luminance. We enabled this in Unity which is in the engine by default to improve the overall picture.

### Motion Blur

We also added motion blur. The inclusion of motion blur is to make camera movement more natural. Motion blur is a technique that applies a blur to moving objects in the scene. In our case when the camera moves sharply a blur is applied to the whole image resulting in a more realistic camera in game. This is why it was added.

### Depth of Field

Finally, the most advanced graphics technology we added was Depth of Field. It is a post processing effect that applies a blur to objects out of focus. The result is a more lifelike camera. In our game we consider items in the centre of the screen to be the ones being focused on. The depth of field effect in our game will be very light but will improve the overall quality.

## Inspiration

The artistic style of the level will very much be drawn from the woodland areas of where I grew up. The mechanics come from my own need to see more challenging RPGs which in recent years have been dumbed down to appeal to a wider audience. This is not a complaint of course, they have been made simpler to appeal to a wider audience and attract new fans for a genre. However, I would like to see a game that doesn’t want to do this and presents the RPG as complicated as it should be if it were real. This desire comes from my own experiences of RPGs which I played as a kid, most notably the Legend of Zelda and The Elder Scrolls series.

## Story

### Game Story

Because the level is set in a wider storey I thought I would fill it in here. As I have already alluded to you play as “The Traveller”. Your goal is to travel to Kilcreggan to deliver “The Tome” a book that teaches the language that was used to form the world and today can control it. You are a scholar yourself and to travel to the capital you decipher the book yourself to equip you with the skills you need to survive the treacherous journey. The Tome must be delivered to the capital if it is to transform the kingdom, once it has it will end the Age of Discovery and usher in the Age of Knowledge.

### Level Story

The level obviously cannot articulate this narrative to the player. The level is a simple section of the above journey which hopes to demonstrate the gameplay mechanics and general tone of the game. As “The Traveller” it is night and you are on your way to a nearby campsite. The campsite has been scavenged by monsters which must be discovered and defeated in a typical monster in the woods narrative.

## Interactivity

The player is able to interact with the wider world in many ways. The spells the player can cast for instance can make very dark areas light. Other spells can also be used to target and destroy enemies such as using the fire bolt spell which lights your enemy on fire. There are also certain objects in game that can be interacted with including fire sources to make a certain area more visible in darkness and chests which contain loot which can be collected by the player.

### Objectives

The level has four simple objectives. The objectives themselves are very simplistic as the level is to represent a small quest in a much larger experience that would be a full game.

1. Reach the campsite
   1. Follow the path
   2. Enter the campsite
2. Solve the puzzle
   1. Find 3 clues to reveal the story of the campsite
   2. Find a final clue to the direction of those guilty
3. Discover the culprit
   1. Walk down the path identified in 2a
   2. Use a light spell to reveal enemies
4. Destroy the monster
   1. Use offensive spells to defeat the enemies
   2. Recover any loot

### Obstacles

The main obstacles as seen above the enemies at the end set piece, and the investigation work. The two obstacles serve as a narrative and gameplay device to add variety and elements to experience in the level. The investigation is meant so highlight how narrative can be simply exposed through the use of narrative dialogs. The final enemies as you might have guessed allows us to inject combat into the quest allowing for some thrills while keeping the gameplay over the length of the quest variable.

### Set Pieces / Scripted Events

#### Investigation Work

The first scripted set piece will be the investigation section where the player will be locked into the camp till all clues are found. When a clue has been found it will reveal narrative that expands the quest. In total three clues should be expected to be found till the player can continue.

#### Final Fight

The final set piece will be a combat sequence with a number of enemies. This will serve as a finale and will allow the player to cast spells to defeat their enemies.

## Visual Development

### C:\Users\B0023\Desktop\14066321_549758521876191_3117524686106472675_o.jpgStyle

As alluded to in previous sections the visual style is medieval fantasy. Specifically, I will be looking to mirror the woodlands from my childhood, which had a distinctive style in that they were inviting but you knew you could get lost in them. The result would be a medieval style with elements of fantasy to shake up the style.

### Colour Palette

The environment is built on top of a small range of colours to make objects distinguishable from afar and to make the general tone of the game more consistent. We use general shades of brown and green for forestry and trees. Whereas colours that are not normally scene in terrain and buildings are reserved for spells to make them standout when cast on top of a scenic background, and beige enemy.

### Lighting

Because the player is going to a campsite it is fairly obvious that the level is set at night. Thus to make the environment fit that time of day darkened lighting is applied. The result is a darkened environment with all objects casting large dark shadows to make the scene darker still. The only light sources the illuminate the world are the fires at the camp site and the spells the user casts creating a constant claustrophobic environment, which is by design. The player is alone in the woods and this shouldn’t feel as wide as a meadow.

## Top-Down Layout and concept art

Below you can find the layout of the level and screenshots of the current experimentation build which is just a playground for developing the scripts required to make the level an actual game. The level as you can see from the below screenshot has three sections, the path, the campsite and the enclave. The path is where you start out, after which you will arrive at the campsite and you will finish in the enclave when you will fight the monsters and end the level.

### Level Layout

### Screenshot

### 

### Engine

To build the game I will be using the Unity game engine. One reason for this is because I am familiar with the engine itself. In fact, I tried using it before coming to university, so I am very comfortable with it. It is also a very popular engine which mean it has great community and no shortage of books and online media to help you through using the engine. Another big sell for me is the asset store which I have used to get basic models and it works great allowing me to spend my time on the game itself and not the assets needing to be created.

# Project Planning and Control

To make sure the level is built on time and has a level of polish I have built out a solid plan to make sure enough time is set aside to accomplish these goals.

## Allocation of tasks

As I am doing the project individually there will be no need to allocate tasks as I will be doing all tasks myself. However, I will say the reason I choose to do it individually was to make sure I had full creative control over the level and had a work schedule that was adapted to my needs as well. With both of these requirements met I am sure that I will produce a level that is up to a standard that both the marker and myself will approve of.

## Project plan

I have split up the project into three stages.

#### Pre Development Experimentation Stage

In this stage which took place in January I have acquired the assets required to build the level. What’s more I have also trialled the basic controls and had basic unity scripts in place to do more complex work such as cast spells. This was done to ensure that the level was not out of the scope of my ability.

#### Implementation Stage

After the submission of this report begins the implementation stage where I will seek to integrate the pre development work into the level designed and set pieces.

#### Maintenance & Testing Stage

The final phase of development will be the testing and maintenance stage where we I will thoroughly test the level and make sure it is in good working order. I will also have added any finishing touches as well including a main menu, about section and anything else I would feel would improve the professional feel of the game.

## Duration, Start and End dates

The previous mentions stages have the following dates attached to them.

* Pre Development Stage – 12th January till 1st of February
* Implementation Stage – 1st February till 1st March
* Maintenance & Testing Stage – 1st of March till 31st of March

## Tasks and sub-tasks

Tasks and sub tasks are evenly split into the three stages discussed. To see a full breakdown of the timing for the tasks you can see a Gantt chart in the next section.

##### Pre Development Experimentation Stage

1. Acquire Assets
   1. Get terrain models e.g. Trees, grass, rocks,
   2. Download music
2. Develop Mechanics
   1. Implement spell casting mechanics
   2. Implement openable chests
   3. Implement clue mechanics

##### Implementation Stage

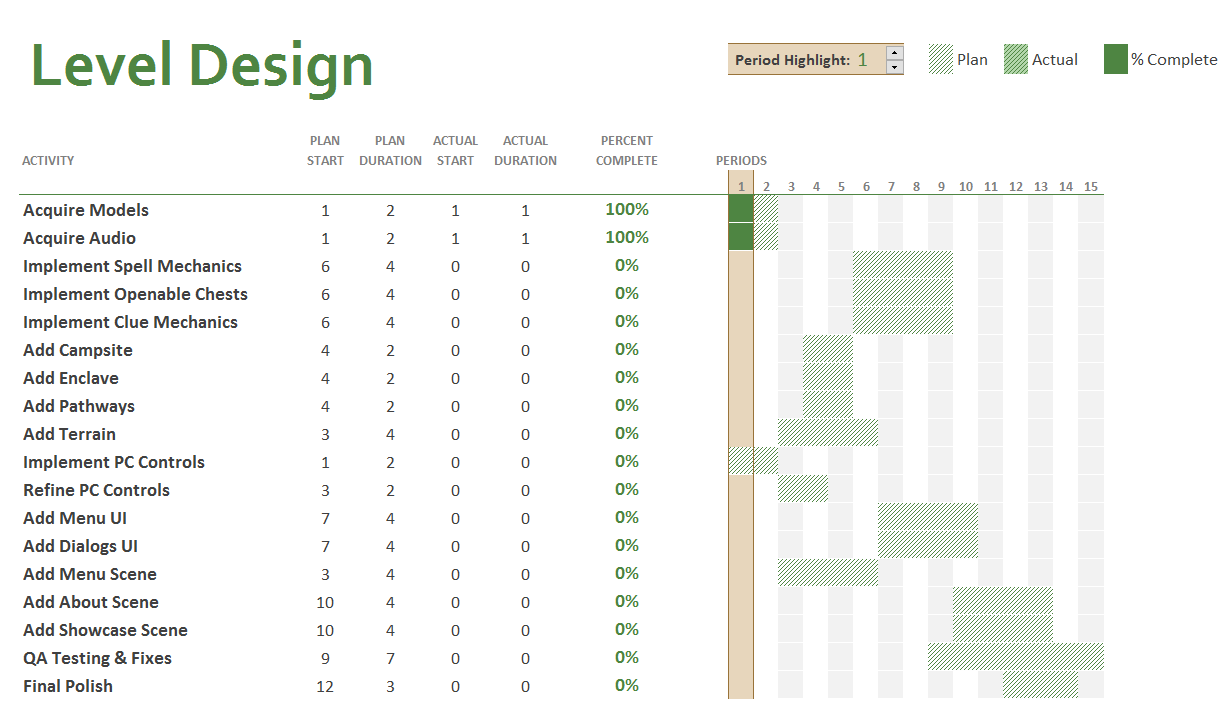
1. Implement level in unity
   1. Place campsite
   2. Create enclave
   3. Add pathways
   4. Add terrain features
2. Add Controls
   1. Implement PC controls
   2. Refine PC controls
3. Implement UI Items
   1. Add Menu
   2. Add Narrative Dialogs
4. Add Scenes
   1. Add Menu Scene
   2. Add About Scene
   3. Add Showcase Scene

##### Maintenance and Testing Stage

1. QA Testing
   1. Identify bugs
   2. Fix bugs
2. Final Polish
   1. Reserved for any last adjustments

## Gantt chart

Find below the Gantt chart I will be using to coordinate my progress on this project. I took all the tasks across the three stages and mapped them into the Gantt chart to better track and manage my progress.



## Process description

To summarize, at the time you will be reading this report the pre development stage will have finished and I will have moved into the development stage with hopefully good progress made. All major work should have been completed by the start of March leaving a good window open for polish opportunities and bug fixes. This design and plan gives me enough room for manoeuvrability to adapt to challenges I will face and will certainly culminate in a fantastic level at the end.

# Playtesting

To ensure that the level is effective in setting out the main gameplay mechanics and to get feedback on the general level design I will seek user feedback the way to do will be listed below.

## Method

To gain user feedback I aim to have a single sheet feedback survey that addresses questions on the basic gameplay elements and asks for general feedback as well.

## Outcomes

Upon playing the level I feel like the player should have the following reactions.

* Should have enjoyed the multipart quest line
* Found the environment immersive
* Have questions about the bigger story
* Found the game easy to pick up and easy to navigate

## Expected Results

I am not expecting a perfect result and ideally the opportunity for play testing will allow me to refine the basic concept and look at additional ways of innovating. I’m expecting a positive response that would hopefully let me see that the basic concept shown in this game if applied to a wider world would result in a fun game. I’m also expecting to get some feedback detailing that the level and quest are very simplistic and the basic combat system isn’t well baked. But that should be expected as this isn’t 3D Combat Systems but 3D Level Design, the key area to focus on here is the level not the next combat system to be demoed in Final Fantasy 50.

## Final Thoughts

Hopefully through this design document you can see my plan to have a level that would fit perfectly in a larger game. While basic it would amount to a good demonstration that is both polished and shows what can be done with this engine in little time. So onwards to making the full level I am sure it will be a success and certainly something I remember creating in my final year of university.

# Appendix 1 - Survey Template

|  |
| --- |
|  |

# unity3d-atc.png (300×300)Level Design Survey?

Please take a few minutes to fill out this survey and please you the back of the survey to write down any opinions you have while playing.

## Level Aspects

### How immersive did you find the environment?

Very Immersive  Immersive  Not Immersive  Not at all Immersive

### What keywords/phrases would describe the three-part quest?

Varied  Exciting  Story driven

Inconsistent  Unfocused  Boring

### How easy was it to start and complete the quest?

Easy  Normal  Hard

## General Questions

### Would a game world full of smaller quests like this be fun?

Yes |  No

### Do small dialogs meet your need in explaining the narrative of the quest?

Yes |  No

### Was the user interface intrusive?

Yes |  No

### How easy was it to defeat the enemies in the final sequence?

|  |  |  |  |  |  |  |
| --- | --- | --- | --- | --- | --- | --- |
| Very Easy |  |  |  |  |  | Very Difficult |

### How long did it take to find the clues?

0 to 1 minutes  1 to 2 minutes  3 to 5 minutes  Longer

### How helpful was the music in establishing the setting for the game?

|  |  |  |  |  |  |  |
| --- | --- | --- | --- | --- | --- | --- |
| Very Important |  |  |  |  |  | Not Important |

# Appendix 2 – General Screenshots