



# Game Document Development of single-player first person shooter game using Unity Studio

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HalTown  
Will you help us?

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# Abstract

"HalTown" is a name of the game that was gotten from Halloween Theme. The game is a 3d single player first-person shooter game creating using C# in Unity game development software. The aim of this document is to describe how the problem was analyzed, development methods, development processes carried out for creating a working product and provides information on what went right and wrong about the project and the lesson learned from experiences that have been gained during a seven- week period and our discussions.

# 1. Introduction

"HalTown" is a 3D FPS game is created as a final project for Mailyo Games. It based on Halloween concept with bats, wolfs,ghost and so on. Its taking place in a town where they have a major and citizen as Halloween character where a powerful heroes face off the orders of bad character of the apocalypse

## a) Vision:

The vision of "HalTown" is to create an interactive fps game. FPS games have increased in popularity in the past few years like Payday 2, Call of Duty: Black Ops Cold war, Doom Eternal, Destiny 2. "HalTown" is similar to these games because the player has the ability to go outside and explore the open world, interact with objects to gain clues, defeat enemies and complete puzzles. The vision is to create a big enough open world with many different incontestable and puzzles.

## b) Project Objectives and Deliverable

The purpose of the project is to design and implement a 3-dimensional Game written in C # using Unity game development software. The project include a various level of game with documentation. The level will include everything that should be found in adventure FPS Game. The game will be a single-player.

### c) Design Goals

The project will be based on creating an Adventure FPS Game with the goal in mind

- Single Player
- Android Based
- 3D Platform
- Multiple Level
- Action Based
- Fantasy-Science Fiction
- 2D platform for GUI and menu systems
- Written in C# for unity

### d) Out of the Design of Goals

- Will not be multiple player
- Will not be console based

### e) Target Audience:

The ideal user has the following characteristics

- All Gender
- Above 13 years old
- Has an android device
- Likes Fantasy
- Likes Adventure
- Purchases content through apps, or online
- Plays mobile games

### f) Team Player

|                 |
|-----------------|
| Name            |
| Esther O Epelle |

### g) Propose Released Date:

The Released Date will be released on the 21<sup>st</sup> of November 2021 for the prototype while the Main Game will be released on 10<sup>th</sup> of December 2021.



## 2. Game Concept

### a) Overview

It is Adventure FPS-style game. However, the player will play as a first person perspective. It will be developed using the Blender, Unity, and visual studio. The game starts exactly at the point where the player meet the major is told that HalTown is a peace town but others want to destroy it.

### b) Genre

The genre of this game is fantasy, shooting

### c) Theme

It is requires to create a game that revolves around the common theme of "Fantasy, Scientific Fiction". HalTown will do this by implementing the them in its design. Its also includes the theme in its game-play where the player has to shoot the minor and the leader in order to escape a certain scene

### d) Platform

The game will be available to play on PC and Android. The reason why this game is the best suitable for PC and android is because it will be easier to control the characters. However in the future it may open to other platforms too.

### e) Look and Feel

A low-poly game that can give a minimal feel and is not heavy on the game. All assets will be in low-poly. A minimal game with tons options such a FOV slider and etc...

# 3. Game-Play

## a) Description of core game-Play

The game-play is adventure based with no role-playing elements; instead the game entirely provides a rush of adrenaline. The only goal is to kill all the bad HalTown character until even one is not left before they kill the main-player.

The game consists of more than one level. However, the number of levels has not been determined yet. In all the levels, the mission will be the same as in the second level, killing all "Shooting and killing". The only difference will be the locations where the levels take place. Every level will take place in either jungle, city, or dessert. The game starts in a town. In addition, there is no checkpoints, the player will start a fighting or survival game at level entries.

The player controls the main character with hand with a weapons. The abilities of our character as a players are walking in all four directions, using reloading-changing weapons, and collecting the pick-ups.

The game has a design with only single-player mode. The only time the game becomes harder, is when the player is fighting the boss or the final boss.

The player start the game with two weapons and certain number of xp. During the game, one has the ability to pick up or buys weapons and xp.

By default, the player has one hundred health units. The attack of enemies will reduce the health, shooting of certain objects will reduce the mp. The effect of the damage will vary on depending on the type of enemy. The enemies can scratch, shoot; they do not have the ability to use a gun or knife. However the player can pick up items such health and power up. If the player health get to zero, one will die. If the player kill all the enemies in the scene they can progress in it the next stage.

## **b) Player Challenge**

HalTown is not equipped for combat game, but in order to defend himself(player) as best as he/she could they have to shoot the enemy. However his main weapons are stealth and cunning. There are some several boss battles in order to get to the next level.

## **c) Player Flow**

In HalTown, the player has hand or a gun and can use either one of them. He/she press the shooting button as they move around to either shoot or display hand on the enemy object. As the player moves from different level , it obtain items from either minor or final boss to either buy more gun or ammo's. The guns level is up to certain number.

## 4. Mechanic

### a) Camera Position

The game allows a game to be displayed from first -person shooter . HalTown uses the standard engine setting of the android device allowing the user to view the game on better display.

### b) User Interface Design

The user embodies a gun hand. The conventions used will be familiar to fps games in the fps genre which a player will be familiar with.

#### i. Movement

The user can move about the world using standard fps methods. The player's movement is with constant speed with no acceleration. In the PC its has the following movement

- Left-A
- Right-D
- Forward-W
- Backward-S
- Shoot- Space
- Looking/Aiming-Mouse

#### ii. Weapons

The user can employ two weapons, which are selected one at time by the user

- Hand- The player start with hand weapon. When a player shoots this weapon at an enemy, the enemy is thrown in the opposite direction but its does effects the NPCs.
- Gun - Early in the first level the player find the gun. When the player shoots its at boar, it eliminates it. The weapon has no effect on other NPC

#### iii. Objects

All objects in the level can be moved. The player can grab health pack, ammo pack or pack if seen on the game.

#### iv. Landscape

The landscape will consist of

- Roads,
- Buildings
- Pavements
- Markets,
- Mansion

The landscape is fixed, and it can not be altered by player actions

a. Roads

Road will be constructed using asset from unity. Its from number of fixed pieces, examples: corners, junction straights

b. Pavements

The villages can walk normally on a pavement blocks

c. Buildings

It will be constructed from shapes and assets from unity.

d. Markets

There are two types of market found in the game.

Small market for food , health, and so on. Large Market for weapons.

e. Mansion

Such location is used to communicate with the major about mission, adventure , and story of the town.

## v. Game Play Elements

These are elements present in the game level that the PC can interact with:

- Health recovery item: Items that recover the player's health bar.

- Power recovery item: Items that fills the player's power bar.

Platform obstacles: Obstacles that hinder the player's progress and can be surpassed by jumping over them.

- Experience Points: Points that the character earns every time he defeats an enemy and/or performs some special task. Once the character has acquired enough experience points the character "levels up".

## vi. Actions

The actions of the game are controlled by the buttons as described in the movement. The buttons include a joystick on the screen of the game, shooting button, camera toggle button etc

## c. Model of the Game

The terrains and building are designed with great implementation. There are several vegetable , trees applied on the terrains plus texture.

## d. Economy

The game has shoot training and lot more level. Later on, in the future it would be third person system with more players added. Again a map function may be implemented into it

## e. Replaying and saving

The game saves its data on either HDD of the device or on cloud. For replaying, it only allowed if the player is been killed by the enemy and there is no checkpoint except the beginning of the next level.

## f. Screen Flow

On the start of the game, there is a menu where we have a buttons, background images. The button comes in various function, there as follows:

- New Game
- Continue
- Leader-board
- Option
- Exit
- Resources

The continue button takes the player to the last recorded game while the New Game is for creating and delete the previous game if found. The option Button is used to control the audio, video setting.

When the player pressed the new Game button , the game is found in a town with many Halloween creatures working around and a major. On the Main Game Scene, there is a pause button that pause all action be performed on the game.

Final, the exit is used exit the game.

## g. Power-ups

Power-ups will be collectible objects that are placed on different points on the terrain. The amount of power-ups will base on game-play mode. There are three types of power-up:

- Health Pack

It is a kind of first-aid box used for recovering health of the player with some predefined amount. The common amount of

healing is 5. They grant health up to the maximum of 100. When health is 100, they do not affect the health. The player cannot save health packs. One can use them only one time when picking up.

- Weapon pack

It is an equipment box includes various types of weapon. There exist two kinds: shotgun, sniper rifle.

- Money Pack

It is an equipment box includes money

- Ammo Pack

It is equipment boxes includes various types of ammo. They will provide additional ammo. For each weapon there will exist several ammo packs that can be collectible. These packs will contain a predefined number of ammo. Ammo packs can increase ammo number of each weapon up to the maximum of 60.

# 5. Story and narrative

## a) Back story

The story takes place in distance galaxy from now as two planet began to merge together. The tidal forces of the galaxy created a way in some Halloween creatures were able to walk in the sun without dying and some walked in the dark hence they were created DarkHal. In addition to the ability they were able to talk in various language. In their period, the population race flourish colonizing many new world including SanYork, your world.

However, some of the creature discovered killing earthing is more profitable and health.

Fourth years before the timberline of killing, Human and creatures made first contact. Although the creatures like the batman had never met human, they were exited by the encounter of a new species and sent fleet of ships to greet the human in peace. However, humans had also thought creatures like wolf, bat , mummies and so on were fantasy and had no intelligence.

DarkHal hated the sun of the SanYork and wanted to destroy the sun that started the war between LightHal,earthing and DarkHal. Some group of LightHal created a town that welcome humans called HalTown. To save this town, the LightHal employed your service to deliver vital supplies and neutralize the DarkHal.



## 6. Game World

### a) General look and feel of the world

The game scene consist of natural vegetation, sea, building, hills and water. There are also sky, sun light, moon light which really brings out the natural beauty

### b) Areas

- General description and physical characters.

The game has many scene. The game has many character and surrounding terrain

# 7. Characters

## a) The Player

He/she assume the role who is the protagonist of the game. He/she is hand or gun. He is well educated and training in shooting.

### ● Player Actions

The abilities of the character as a player are:

- Walking in all four directions
- Collecting the pick-ups
- Using -Reloading-changing weapons
- jumping

### ● Player Weapons

The player starts with the game with punch and can collect two or more weapons in the game

## b) Enemy: DarkHal

These are characters which give the trouble to the town. They are the creatures from the dark side of the world. Their bodies can not stand the sun. They are essentially allows trying to kill the player. They like staying in dark side of the town. They are only interested in two thing

- Destroy the sun
- Kill the LightHal.

"DarkHal" do have the ability to use any weapons;

## c) Artificial Intelligence

This section describes how the artificial intelligence works and how the player interacts with the AI and various items in the world.

### ● Opponent AI

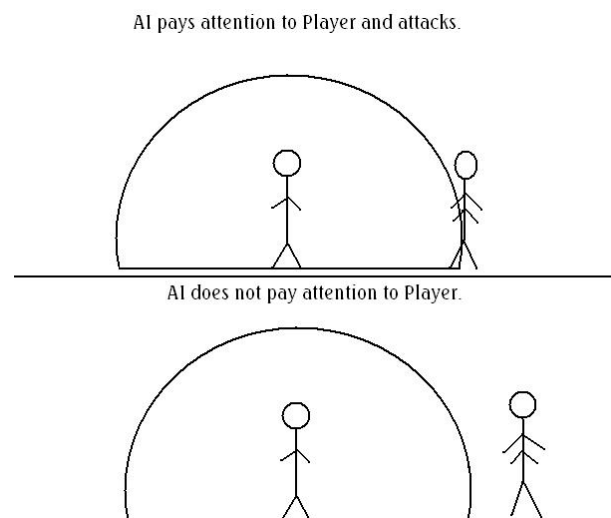
The opponent AI consists of dark creatures (ranged weapon):

#### ■ Player Detection

Players are detected using two methods:

##### ■ Hearing

The AI checks for the player within a radius. If he is at alert, this radius is larger.



##### ■ Visual

The AI scans for the player where all three checks have to succeed:

- The player is within visual range (distance)
- The player is within the AI's Field of View
- No terrain, buildings, or objects are directly between the player and the AI

When the AI is at an alert state, he can see further.

##### ■ Motion

Each Creatures can follow a unique path where they turn around at the end and pace the path the other way. This mode is called "Patrol."

##### ■ Path Finding

The levels have stairs, ramps, and other 3D level design. The creature stays on its path. If attacked by the neutralizer, they will eventually return to their path. If knocked off course by the mind push, they stay in place.

#### ■ Non-Playable Characters

The player will encounter non-playable characters (NPCs) before entering the factory. These non-playable characters will tell the story to the player and tell the player how to play the game. The player does not need to necessarily interact with all of these non-playable characters to progress through the game, but they could supply useful information to the player.

#### ■ Reactive Items

There are a number of reactive items that interact with or affect the player:

##### i. Neutralizer

The neutralizer is a weapon that clears paths for the player. These blocked paths are puddles of insecticide.

##### i. Mind Wave/Force Push

The mind wave is a weapon for the player to push the enemy AI without actually having to touch the AI enemy. (A visual example of this weapon is shown below.) The fall from the Mind Push or falling in a vat can damage the enemy AI.

##### ii. Insecticide Pool

If touched by the player, an insecticide pool will damage the player's health or kill the player depend on how long the player remains in contact with it.

#### ■ Poisonous Cloud

The poisonous cloud will appear after the player achieves the main goal of introducing the neutralizer and agent into the "master vat." The poisonous cloud will spread across the area and will do severe damage to the player's health and can kill the player. The poisonous cloud is designed to harm the enemy soldiers much worse, killing them in a relative short time.

# 8. Levels

## a) Training Level

When the player meet the major of the town at anytime, the player will taken to shooting area where they are provided with a training level where they will shoot butterfly under instructions.

## b) For each Level

After the training level, the player can progress to outside the town where different character can be found to targeted as either food or weapons. At the end of the gate they player gets to an entire of the level and get to shoot different animated objects.

## c) Objectives

### i. Mission Objectives

- Find the hidden health, ammo

Get out of different level with their lives and either weapons or money.

### ii. Area Breakdown

The game consist of many level that is broken into different scenes:

- Outdoor starting area
  - Player meet major who relates the story
- Outdoor ground
  - Find enemy and shoot them without the player been killed
- Market
  - Area with a desk, barrels and some guards

# 9. Interface

## a) Head-up Display(HUD)

It is made up of several different parts, it shows the health, xp, mp and lot more.

Here is the list of HUD:

- Health Bar
- Experience Bar
- Mp
- Hostile counter
- Ammo Counter
- Targeting reticulated
- Inventory
- Map

## b) Menus

The screen will have a well-design background image that will affect the user and will have Five buttons on it.

- New Game
- Options
  - Audio: Changing Volume settings or not
  - Video: Changing Graphic settings or not
  - Back to Main Menu
- Exit
  - Yes
  - No
- Leader-board

Ranks players in order according to total points acquired.

- Resources

Page in which the user can check further information on different characters, this information is unlocked during game-play.

## c) Camera

There is one camera which follows the player and which can be controlled by the player

#### d) Audio, Music , sound effects

The game has audio sound for different aspect in the game. There is main sound, enemy sound and death sound. The music is played throughout the game.

#### e) Control System

The player can control the movement of the player using the joystick or the movement found in keyboard(see the movement description)

#### f) Game Art

Its art features a lot of assets , colors, low poly image and so on.

# 10. Modernization

## a) Revenue

To early purchase the guns, riffles or to buy more coins , the form of the payment is made through Google play store in the form of the currency found in play store.