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Game Design Document

Computer Games Development

Final Year Project - Repeat

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# Concepts

## Tagline

Run around killing and looting enemies, buy upgrades from a shop to make yourself more powerful and you can destroy the terrain to create your own path or simply for fun.

## Details

Platform: Window’s

Target age: 16+

Ratings: Pegi 12,

## Game Summary

Set in a dark fantasy world(s) the player is a mysterious character all that is know is he goes through portals to different worlds while attacking enemies and making himself stronger by looting gold from enemies and spending them in a shop the player can attack and shoot but he has little amount of ammo, so you must be careful about it.

## Game Outline

Player starts with full health and 1000 currency with 100 ammo the player can jump and attack or keeping holding attack to do a combo you should avoid traps and possible enemies depending on how much health the player might have, if there is a shop in the map you should always go there to buy some upgrades to make yourself stronger for example buying the energy wave attack will make the player shoot of energy waves when he does a basic attack these energy wave can be used to attack foes from distance then, enemies are all different some get dangerous as they are closer to death some others fly in air while others can throw explosives at the player. The player needs to be very cautious since the world is dark and you can only see from a distance.

You can create your own map by going into level editor and start popping stuff in the game world after selecting a block form the slider and the save the map with the name you like.

If you feel like it, you can play co-op with someone else on the local machine by pressing multiplayer 1 person becomes the host while the other joins the host.

## Unique selling point

* Multiplayer/Server – play with another player
* Level editor – Design your own map and play it by yourself or with someone, save it and share it.
* Sound/Music - Make it feel more alive
* Particle effects – Adds a bit fancier stuff to not make it look bland.
* Destructible terrain
* Lighting – games set as dark/night, and the player has a light source

## Similar competitive products

Dead Cells, Blasphemous

# Gameplay

## Overview

The current state of the game you can have 5 -10 mins of fun gameplay all depends on how fast the player plays the game and takes his time doing certain stuff. The game starts with the player looking at 1 direction standing on a platform, he has full health and ammo but only 1000 gold this is currency where player can upgrade stuff in the store by being near it and pressing the “E” key, the player can play co-op, 2 are better than 1.  
The game ends by going through the portal or if the player is dead you will get a end game panel that will appear in the middle saying that you have either won or lost and it shows some stats like the currency the player has and how many enemies he has killed.

## Game Loop

A diagram of a diagram

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A screenshot of a computer

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# Mechanics

## Controls

Most platformer games use both the keyboard and the mouse and it’s the same as for this project this game uses the keyboard to make the player move (W,A,S,D) for movement and “E” to open stuff like the shop or portal, if you are inside the level editor you can press the Q or E to rotate the selected block, lastly for the keyboard inputs in the level editor when you save the file you can enter the name which is basically the whole keyboard then and that all for the keyboard controls for the project. Next is the mouse the mouse is used for aiming the shot and when you press the left mouse button you can shoot the bullet projectile from the player and its also used to click on things like buttons in game the interface UI.

## Currency

Currency in this game would be gold at the beginning of the game the player gets 1000 he can spend them by buying stuff in the shop and how to earn the currency is by killing enemies they will drop coins where the player can go and pick them up.

## Combat

The combat is very simple holding the space bar will make the player attack he does the 1st attack and if the space bar is being help or pressed repeatedly the player will follow up that attack with another creating a combo attack, as I mentioned above the player can shoot so wherever the mouse position is if pressed the left click on the mouse a projectile/bullet will go from the player towards where the mouse position was this bullet can deal damage to enemies and blocks or even traps like the barrel.   
The player combat can slightly change when buying some upgrades from the shop, you can buy an extra bullet so instead of shooting one bullet you will shoot 2 or even 3 if buying another and lastly from the shop you can buy “energy wave attack” this creates a energy wave that goes into one direction after pressing the basic attack with space bar it deals low damage but it can be useful attack from range, this is the combat for the player for enemies I will mention it below in the “game characters” section.

## Health, Damage, Death, and Cost

The player has a normal health UI at the top left it is set ass 100 float there is an upgrade where he can increase it by 20% then another UI rectangle will appear much smaller showing the upgraded item visually.  
Damage is does if the object collides with something so the bullet intersects with enemy or a block it will take away their health by calling a function takeDamage(amount).  
the player will die if his health is 0 and same for other objects so for blocks they will simply disappear and for enemies I set the state as dead I don’t want them to disappear since I want to have persistence so you can see where the enemy has died.  
As I mentioned the shop all items have a cost this is shown in the shop.

## AI Enemy

So the way I made the enemy AI is slightly different than the rest 1 enemy can be doing much more and is more complex than the other so lets start by the flying unit first “Evil Eye” this unit when he spawns he create few patrol points the first one is the spawn position and then he tries to find another patrol point that there is a clear path from him to that point so nothing is suppose to be blocking him after he goes to that point he waits a bit and also creates a new patrol point in a radius and that there is nothing blocking from his point to the new patrol point the enemy just repeats until he hits the patrol point capacity after that he goes back and fort while stopping for few seconds on each one that is this enemy type patrol mode the rest of the enemies have the slightly different since they are on the ground they don’t search for new patrol point they simply move left and right with another detection box to see if there is a block on the ground so they won’t fall off the platform, since it’s a 2D platformer game they can’t really do anything else.  
  
All enemies have a detection range if it detects the player they will shoot with their style so what I mean is some simply shoot in a straight line some other might be a throw while another goes in a massive AOE (area of effect) they do this only if it detects the player from a distance.  
  
There is an when the player is close the enemy will engage in melee so that can be a slash attack or a simple leap for “Evil Eye” enemy. Some enemy like the mushroom will only attack if they are within a certain health threshold to make them a bit more unique.

## Level Editor

So, the level editor for this project is much better than the ones I had previously made but it can still be improved, I added health this time on the blocks since I wanted them to be destroyed so when you open the level editor you can see 2 buttons on the top left and on the right.

On the left it says “Back” so you just go back to the previous screen and the other button is “Save” the save button can only work if there is the necessary blocks already in place so that would be the player and portal if they are in place and you press save a panel will appear that tells you to enter the save file name in here you can type on the keyboard the name you would like and then press the button at the bottom of that panel to confirm.

On the right side of the screen there is a button you can press this is to open the slider at the top there is a button called “Delete” by pressing this you can delete the blocks in the game world right below that there is a text that says what type of section you are in on the sides there is the arrow buttons where you can go change the section, type of blocks and right below that is the blocks you can select and place them on the map.   
There are 5 types of tabs/sections

1. **Blocks** - simple ground blocks that are walkable, collide able and destructible.
2. **Traps** – Spike and barrel that explodes
3. **Enemies** – the 5 enemies I mentioned before
4. **Essentials** – that’s the player are portal the ones that are needed to save the file.
5. **Miscellaneous** – these are random stuff so like health, ammo packs, torches or even the shop

By clicking on any of them you can rotate it as well if the player wishes it and when you save you save it as a Json file to make it readable on the file.

# Progression

## Game world.

The player starts somewhere in the world with nothing but a light source keeping him from darkness, he travels around killing and looting, finding a stranger in a shop to strengthen himself by buying upgrades. His only goal for the game is to find the portal that is hidden somewhere within the map.

# Story

## Overview

The player is mysterious just like the “Doom Guy” in older Doom games there is no backstory the character is shrouded in mystery, all that is know is the player goal is to travel portal to portal he may seem like he is finding something or someone.

## Narrative

The player travels around the world killing enemies and avoiding traps, while simultaneously getting stronger by the stranger in the shop that appears to be everywhere in all realms, the player can buy upgrades to strengthen himself, either it can be more health or upgrades on its own attacks, you earn currency by killing enemies.

# Game Characters

## Player

The player is the main character of course, he has a sword that can strike at enemies and shoot he is able to jump or even double jump if upgraded the bullets can be increased in the shop so you can shoot more as well as health and ammo. The player is a character that is fast compared to enemies making him quite agile not fast as other platformer games where they mostly have a dash ability.

## Goblin

Goblin has few stuffs in store he has 3 different attacks the first 2 are slashes and the last is a range attack where he throws a bomb towards the enemy the bomb can bounce of surfaces and lasts for few seconds before exploding

## Skeleton

Skeleton enemy has 3 attacks and 1 defence mechanic the first 2 attacks are slash and the range he throws his sword towards the player in a straight line lastly the defence he has is a shield when he detects the player bullet incoming towards him, he will raise his shield to defend himself.

## Evil Eye

This is the only flying unit currently in the game he behaves slightly different since he tries to find patrol points in the world and go front and back from them, unlike all the rest of enemies which they will always go left and right this is the only enemy that his patrol area will be different inn every game. He also has 2 melee attacks and 1 range the first melee is a leap attack where he jumps towards the player to bite him the 2nd is the spin attack if the player is on him, he will do a knockback effect pushing the player back and lastly the range attack he shoots a projectile towards the player in a straight line.

## Mushroom

This enemy has 2 melee attacks and 1 range the melee is basic he attacks if the player is close but the range, he only does this when the health is low, he does a huge AOE attack where he spreads gas around him that goes outwards.

## Demon King

The unfinished enemy he is a boss enemy that has lots of health and deals high damage to player he is much bigger than the previous enemies, he has 1 melee attack where he does it if the player is close.

# User interface

## Overview

This project has few clicking on the screens throughout the project to the main menu to level editor and gameplay where you can click on buttons to go to different screen, in level editor its more interacting with the slider section to select all different sorts of blocks to place them down on the world map, the gameplay is more for the player to shoot with the mouse and click around the shops interface which is easy to go around.

**Main Menu**: has 4 options – Play game, Level editor, Options and Exit you need to left click on these to open to those screens right click on the main menu to spawn a bouncy ball.

**Level Editor**: 2 buttons at top left screen to go back and save, right side of screen has another button to open a slider that comes out from the right side of the screen, inside the slider you can press delete button to delete blocks on the world map you would see arrow buttons to change tabs and underneath that you see all the available blocks you can select and then place them down by left clicking anywhere on the world map.

**Option**: 2 horizontal sliders to change the volume you can select the handle and drag with mouse

**Gameplay**: left click to shoot a bullet form the players position, when the shop is open you can select the handle and drag it to move around to show different items available, left click to buy the item which turns green meaning its bought if the player has the enough currency also if the mouse s over the item it shows a description of that item.

# Aesthetics

I added some fancy aesthetics to make the world in my game feel more alive and not too bland, these can be persistence so when you kill enemies their bodies will remain so you can see where they died, there is particle effects and sound throughout the project

## Particle Effects

There isn’t that many particle effects in the game in the main menu you can see fireflies appearing and disappearing if you go to options and press right click you can spawn bouncy balls where they have collisions to each other and the screen boundaries.

## Sound/Music

There is sound when clicking on the buttons in main menu and music in the background, there is some sound in gameplay like the player jumping.

# Inspirations

I mostly thought of what might fit in my game with the time I had I didn’t want to focus on one thing like assets for example art or sound/music they take a long time first the sound/music file can not work and needs to be changed and for art like the spike trap I needed to cut the image on Gimp, finding images takes a long time but since they aren’t marked I was trying to find whatever might suit my game and just take that asset I wasn’t going for near perfect art like I did on my previous project in total time I spend many days trying to find art that might fit in my theme that’s including art, sound, music, and font.  
for features I thought of what might fit for a platformer game and the lighting I was inspired mostly from “Kingdom Two Crowns” having a night time effect.