Sagar Shrestha

Game Design Journal

Game A Week (20/21)

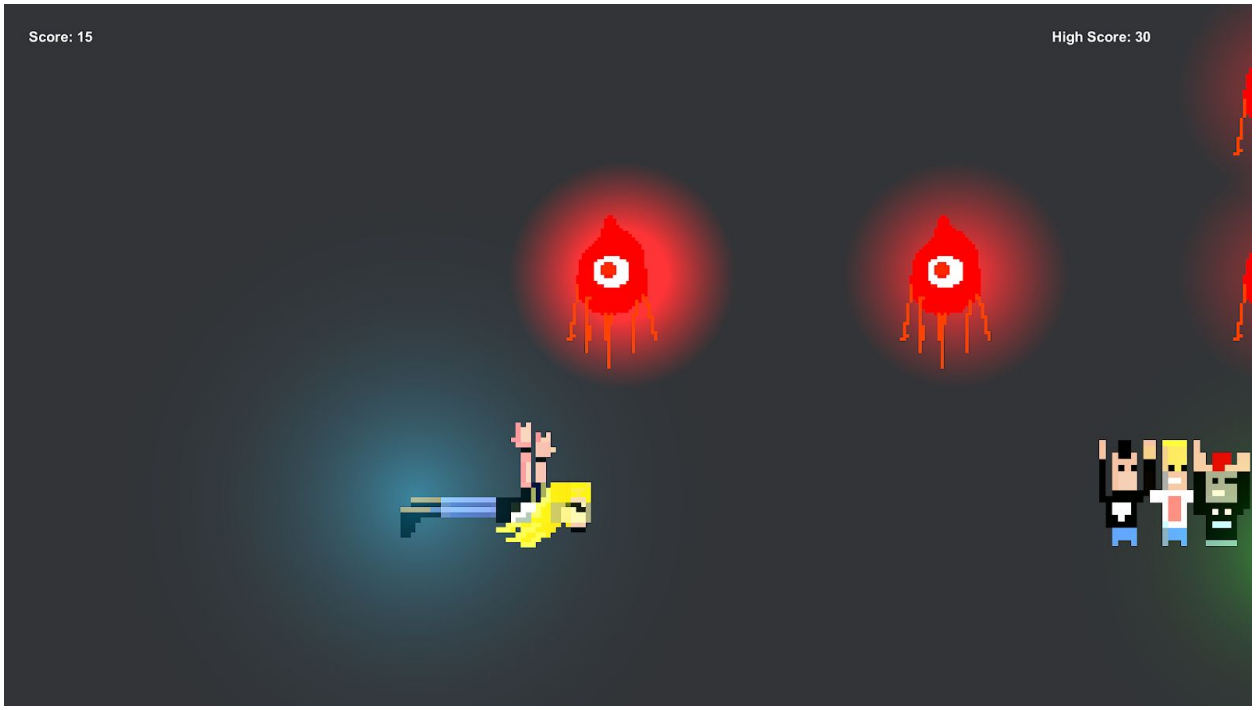
Contents:

Introduction:

This journal is the documentation for Design Process for the project's in the Game-A-Week course. Held in University of Europe For Applied Science under the supervision of Prof. Csongor Baranyai.This Journal Documents the various steps of Game Development and Design Documents for the Games created during the course.

The course was Game Jam formulated into a course itself where we were to create Games in Week to the Theme presented.The documents included are the actual Game Design Documents in digital form, screenshot during development and conceptualising. And self reflection along with the learning from some of the games created.

Sagar Shrestha



Week 1: Theme One Button (CrowdSurfer)

The theme for the first week was One Button.

Conceptualisation:

My thought process for this theme was how one button be used as the only input and completely cover the game mechanics with the single button.

Theme--->Mechanics

What Game works with 1 button mechanics?

Flappy bird.

A flappy bird always moves right and we only have to jump to evade from the pipes.

Taking this idea. The second question in hand was

When would this movement make sense?

Then it clicked. A person in a concert crowd surfing has no control over his movement and (can jump?)

That idea led to prototyping of **CrowdSurfer.**

CrowdSurfer design document

Game Identity / Mantra:

An endless runner based on crowd surfing in a Metal concert.

Design Pillars:

Fast-Loud-Difficult

Genre/Story/Mechanics Summary:

This game uses the basic concept of crowd surfing.The main mechanics in the game is diving (technically a jump).The platforms are crowds.
.

Features:

Pixel art/Ambient light representing lights/Alien Enemy(?)

Interface:

Input: Press Space to Dive.
UI: Mouse Controlled. Instant restart with space.Timer for the amount of time survived.

Art Style:

Modern Pixel art (64x64 asset) for the character and enemy.Crowd assets size (128x64) Heavy Metal themed

Music/Sound:

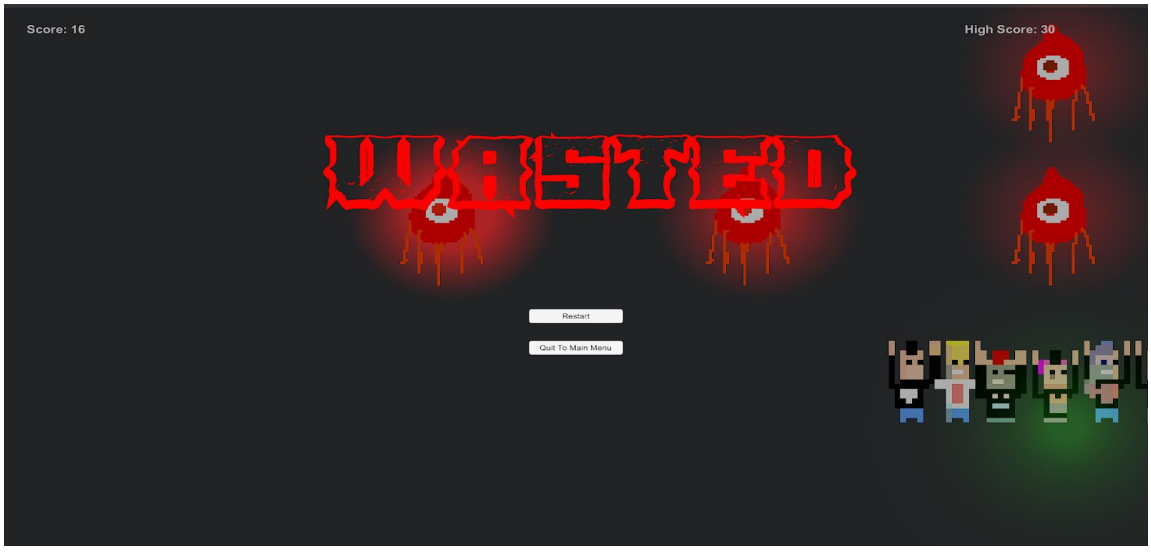
Include links to music and sound design similar to What you're trying to achieve. You can also list the emotional responses that the sound should invoke in the player.

CrowdSurfer PostMortem (Prototype-State Not functioning)

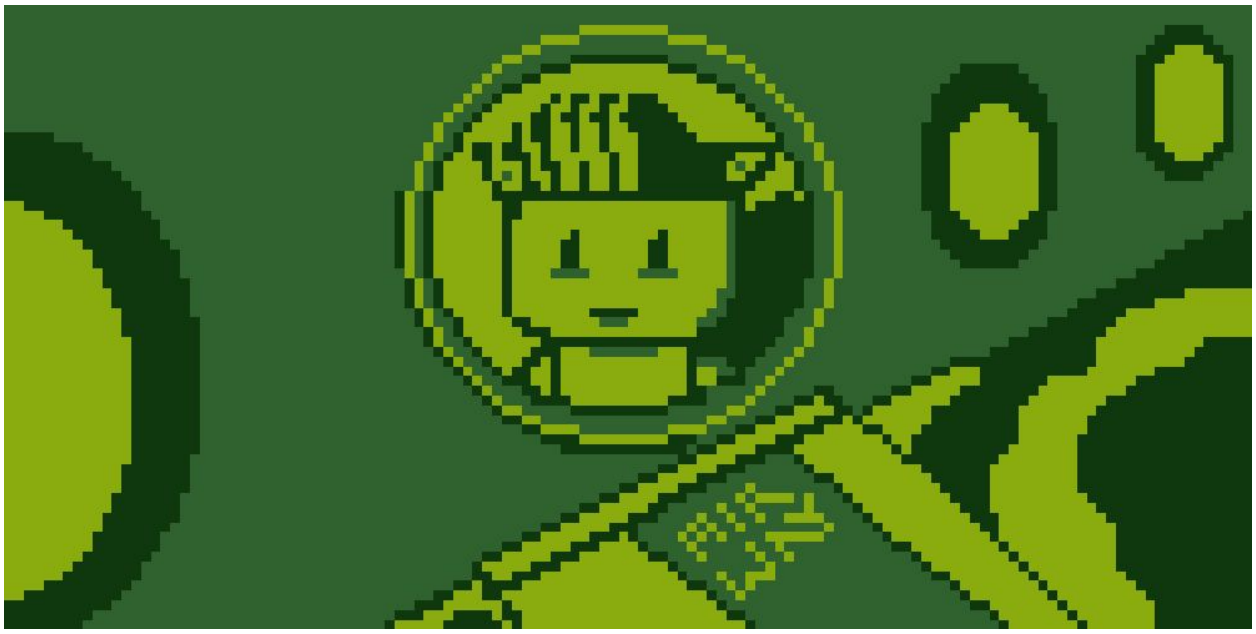
The game concept was quite unique and upon prototyping the jump mechanics worked very fine. But the introduction of enemy objects was definitely the worst decision made during the development. The enemies made broke the game as the enemy generation script wasn't in sync with the level platform generation; it created a situation that a player was more likely to get enemies instead of safe platforms.

During this project I developed the following skills:

1. Create a game i.e. not just having the game as content but also menus and UI.
2. Using Playerprefs. In unity for scores. Even though it isn't the best way to create a high score it worked for this simple game.
3. Taking a theme,concepting and then prototyping
4. Even though the game wasn't properly functional.I learned to accept failures as a part of any design process



Week 2: Theme Berlin (Berlin Berlin)



The second topic had a unique spin. After the mechanics heavy one button game this was a completely abstract theme.

Conceptualisation:

This theme had so much potential since the theme could be any game, any genre and any mechanics.
I thought since this topic would be huge added self restriction to the project

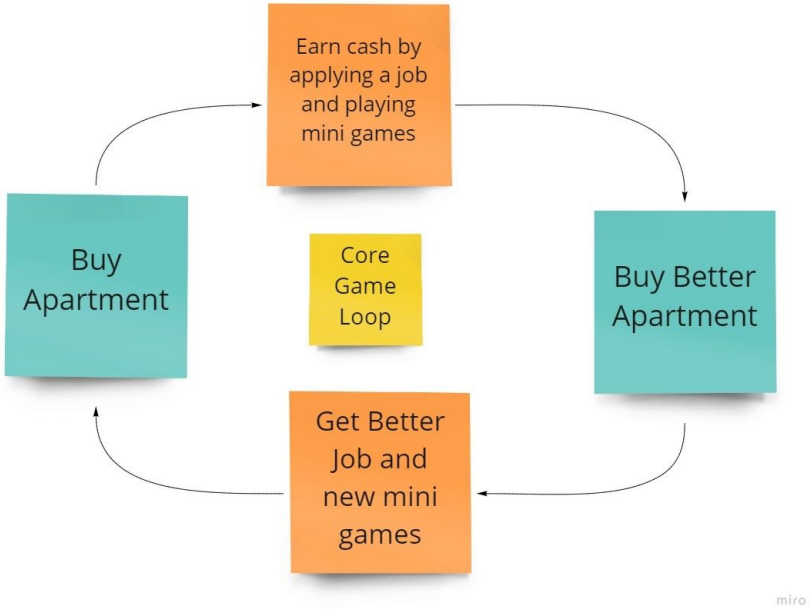
1. The game has to be in the classic Gameboy color palette.
2. For some reason, I wanted to be somewhat of a small tribute to Ghost buster, the classic NES game from 1984. I had a fond memory of this horrible game from my childhood.

Gameplay Concepts:
The first idea was some sort of platformer that would bind Berlin as a part of it's narrative.
Once I had the narrative idea the gameplay started forming around it.

Narrative: A game depicting a semi-reflection on somewhat my experience in Berlin with experiences like finding an apartment and small quirks that would very much define “Berlin” itself.

Gameplay:
A Gamified menu which came from restriction itself. The Ghostbuster-inspired cityscape layout would be the base for representing apartment buildings and monuments in Berlin.And the main game revolves around the interactable object within the apartment rooms.

Game Loop:



Berlin Berlin design document

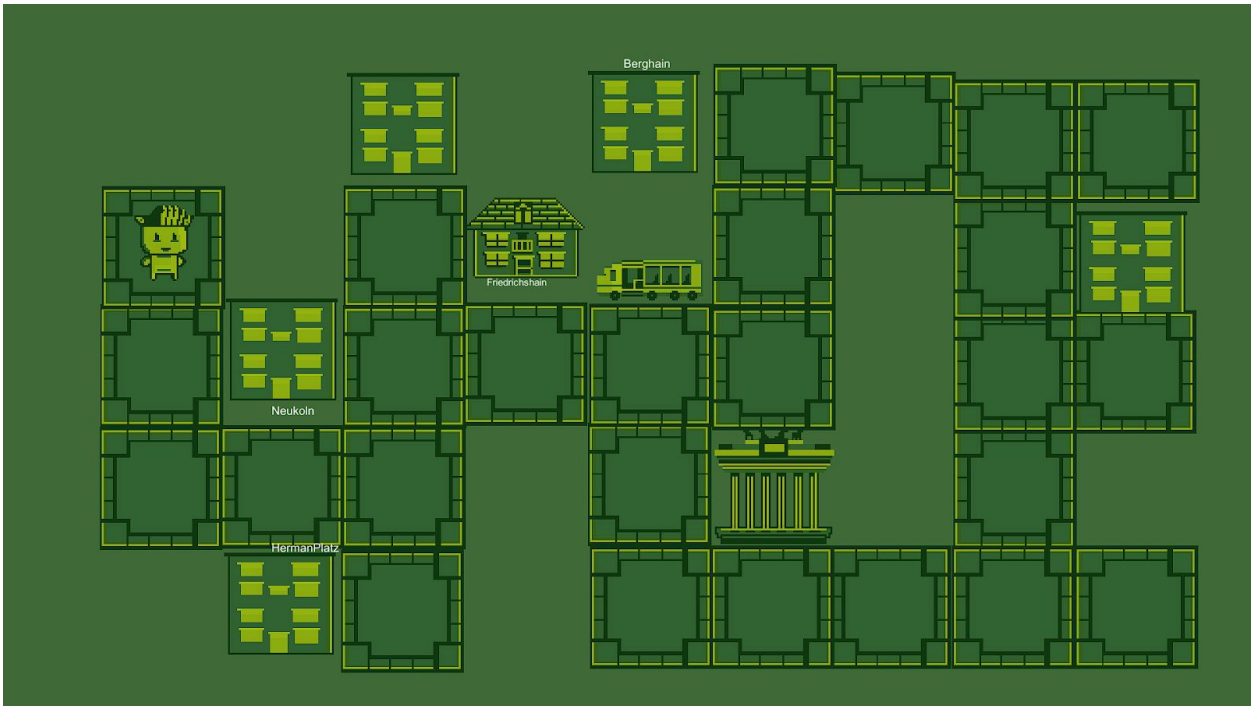
Game Identity / Mantra:

Classic GB Palette mini games and interactive about a person landing in Berlin for the first time.

Design Pillars:

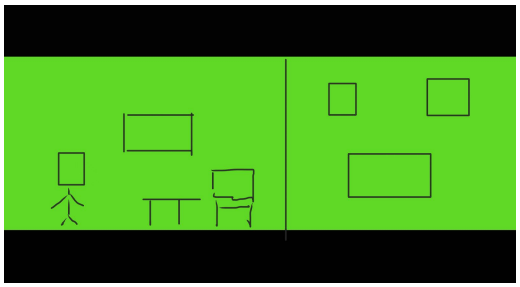
Semi-accurate depiction of Berlin.
Slow paced game.

Genre/Story/Mechanics Summary:



Person landing in Berlin for the first time and having to go through finding an apartment,getting a job and earning more cash to get a better apartment and work enough to get a better job. This game loop continues until all the apartments have been rented once by the player.
The main gameplay states must have 3 distinct state:
1.Main Screen State (very reminiscence of early NES The GhostBuster game): This is where you find apartments. This will have all the major places in Berlin as a residential area.

2.Scene Screen State
Letter boxed screen showing just the apartment room .(Very focused)



3.Interactive Screen State
In the screen state there are many interactable objects that lead to a small mini game or interaction. Must have:
a.Cat
b. Pc to find job and receive emails
c. Door to go to the job
d.Stove to prepare meal
e. fridge to go shopping

Features:

GhostBuster 1984 tribute.Ghostbusters .

Interface:

Input: WASD/ directional Key for movement
Mouse for UI
KeyDown F for interaction

Art Style:

Pixel Art. GB palette
64x64 for all assets
Assets: Character,Room and furniture, Tiles and buildings. Maybe a landmark (TV tower,World clock and Brandenburger Tor)

Music/Sound:

Very Berlin Club scene music (opensource) or traditional chiptune(16bit)

Berlin Berlin Post Mortem:

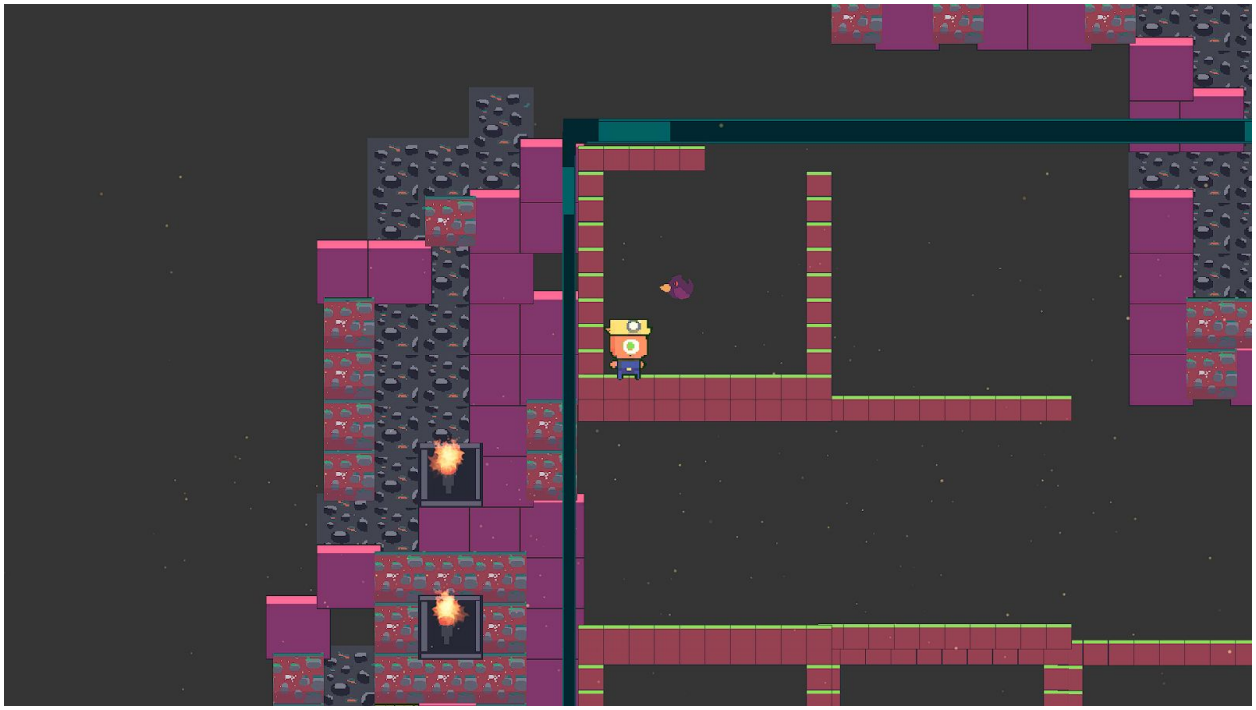
What went right?

- strong visual style
- Game staying true to the core theme with game asset,narration and using music from berlin scene

What went wrong?

- Scope of the project was large. Hence couldn't add all features
- Couldn't find a clear identity to the game whether it would be narrative driven or just be a set of causal games

Week 3: Theme Destroy (Boom Miner)



Boom Miner Design History

Initial Concept:

For the third theme I decided to create a roguelite bomberman clone.The game would work as a traditional dungeon crawler but with bomberman mechanics as it's backbone structure.

But after creating the bomberman clone and applying some dungeon like room and enemy ai.The game felt fun for early room but felt slow and repetitive. The bombs felt very slow with a timer in an open dungeon environment.

2nd Iteration (A good accident)

While protopying the game initially I had used the player controller script from the previous game jam (GameAweek: Berlin) The script had two movement methods. One was a top down version and the other one had a platformer style controller.I accidentally activated the platformer controller while i was testing the game.The game felt completely different and had almost "Spelunkish" feel to it, which made me change my game into a fast paced platformer.

There wasn't a certain design to follow so the further iteration were based on tweaking the old concepts. The enemies ai was changed from top down to a platformer based ai. The dungeons were changed to larger top to down square platform rooms.And the biggest change was all the enemies as well as platforms could be destroyed.

Bomberman-->Boomminer

Description of the game:

Boom Miner is a speed platformer with relentlessly chasing magical creatures.You play as Bopo, in a futuristic underground mine exploring the far end.Bopo can bomb each and every structure and environment that lay in the mine which can be often good or horridly bad.Explore the immersive futuristic mine and survive.

Key Features:

● Non Linear Exploration:
There is no fixed path to explore.Create your own path by destroying the mysterious
environment as you go.
● Relentless AI:
Each and every enemy will chase till the end until dealt with.
● Pixel art and VFX:
Semi-modern pixel art style with intense vfx and a soundtrack that can kickstart a Rave in itself.

Boom Miner Prototype Postmortem:

What went right?

- A working game with levels
- Game Juice
- Enemy design
- Fresh design and color palette

What went wrong?

- Level design
- Lack of boundary definition

- Introducing too many elements or mechanics too early

Development after the Prototype:
Boom Miner 0.5a
Changelog:

- 3 unique levels (The Fall, The Chase and The Fly)
- Add Boundary tiles for the out of bounds area
- Enemy balance in terms of speed and numbers
- Removed plant enemy from the game
- Minor fixes to controls

Week 4: Theme Toy and Playfulness

(Pocket Mansion)

Group

- Nina Hanau (Art/Concept)
- Luisa Enciso (Art/Concept)
- Sagar Shrestha (Coding)

- Design Idea
  Nina/Luisa

1. A digital polly pocket. Gameplay would replicate the joy of building up a polly pocket room
2. Concept to Game Design

A coin generates over time like in plants vs zombie (PVZ the main inspiration behind the game play)

Initial Prototype with placeholder art:
https://youtu.be/61GfTb282UA

The game would be front facing and the furnitures could be dragged and drop into the scene

My Code Requirement

1. Coin Generator
2. Drag and drop object Manager
3. Furniture Manager (Scriptable objects)
4. Level Manager
5. Interaction Script(Onclick Audio,Drag Image)
6. Furniture Placeholder script
7. Timer

Self Evaluation

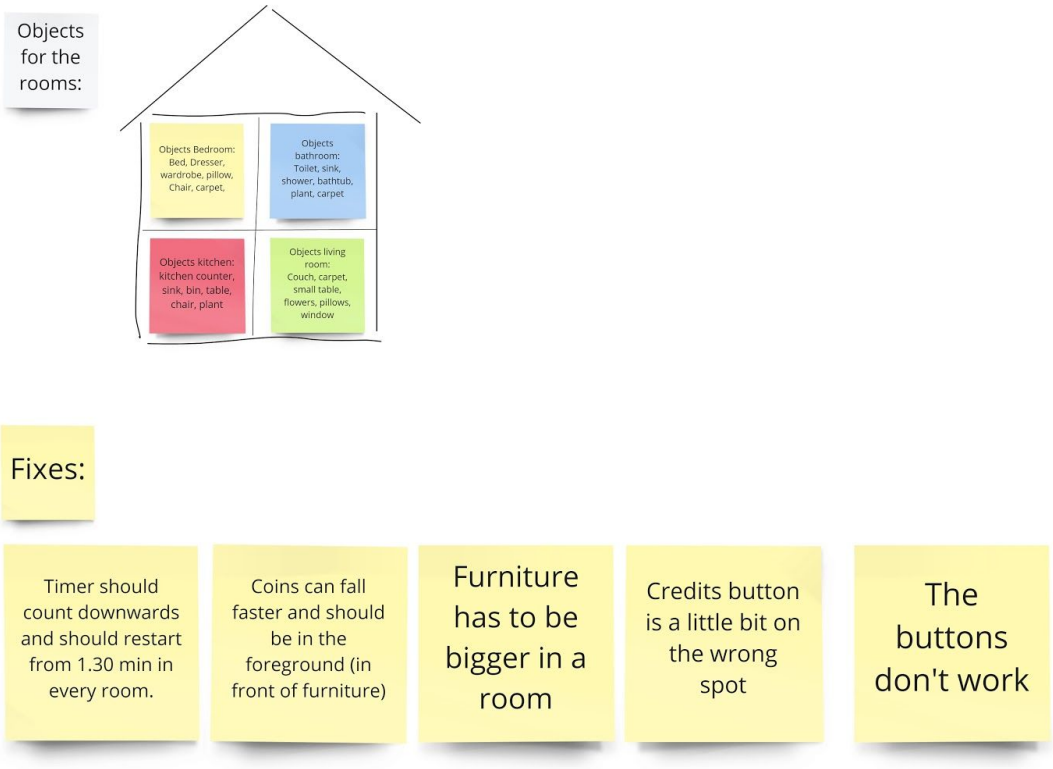
Though the codes requirements were fulfilled the way I approached the task was too complex. From the very beginning I was convinced that UI based scripting would be best suited for the game.But upon building on that concept the coding of UI script in Unity was more difficult than expected. The unity documentation had very little resources for UI based scripting. Hence a huge amount of time went on researching the topic.I should have realised it and should have changed my workflow to 2d GameObject based scripts but it was too late.
Managed to get the game to work but was very buggy and irresponsive at times.

Group Work

This was my very first group project for the course. Nina and Luisa approached me with a few ideas they had for the project. One of them was a Dating simulator style game and the other was a game based on a polly pocket toy.

Okay, let's dance! What shall we dance to?

We properly created a workflow where we had what is to be done and what is the highest priority.We had constant communication if anything was done or changed in the game in terms of art feature and codes.



Pocket Mansion PostMortem

What went right?

- Project Planning
- Scoping
- Work division
- Communication

What went wrong?

- The linear game
- Usage of coin mechanics for a playful game
- The issue with UI's
- Coding using difficult approach

Overall it was a great experience working with both of them.. It certainly helped much better to understand planning efficiently and understanding team dynamics while all of my early projects were solo.Overall even though the project was stressful at times in terms of workloads, the team had a positive attitude throughout the development phase.

Week 5: Theme End of the World (Lost)

Lost

—

Group

Sagar Shrestha (Coding)

Marie Wispler (Art)

Jasmin Stahn (Art)

Design Idea

Point and click platforming adventure

Game Staging: A room with a world in chaos

Interactable object depicting the 2020

Concept to Game Design

SideScrolling platformer (Without Vertical movement or jump)

Mouse click to interact with objects

Game starts with animation

In Gameplay state the play interacts with the objects. After interacting with all the interactables activates a final interactable leading to end animation

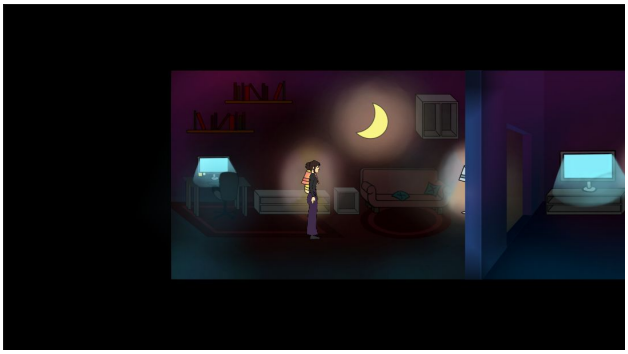
My Code Requirement

- Interaction Manager and main game logic
- Platformer
- UI Script

Self Evaluation

In terms of code requirement there was very little for me to input. The codes were done by the first two working days. And furthermore worked in fixing bugs and helping with other content as required.

Group Work:



For this project, Marie, Jasmin and I had a very clear goal on what we wanted to achieve. The design goals were set on day 1 and we religiously followed it till the end.Since everyone had a clear understanding what we were supposed to do,the workload felt like a breeze. There was constant communication if we wanted to work on Unity and would always update each other if we changed something or something as done. We at the end managed to create a game that we visioned it would be.

Lost Post Mortem:

What went right?

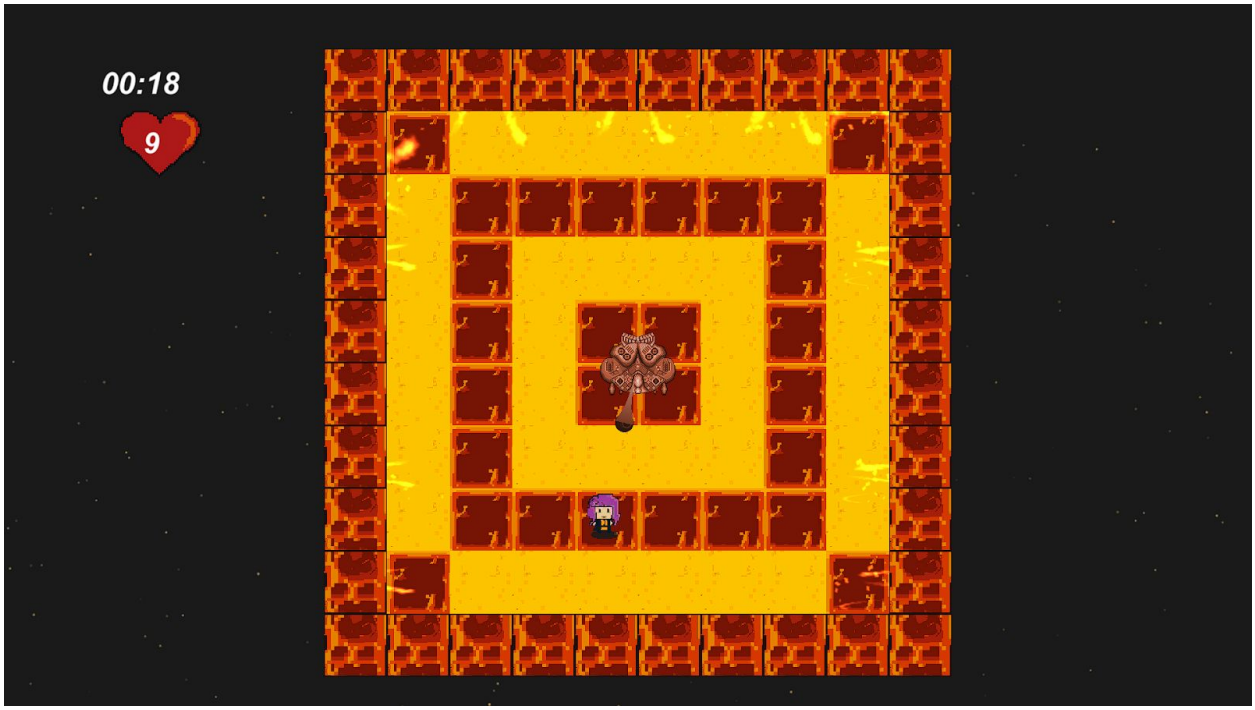
- The group coordination
- Communication
- Efficient work division
- A finished game
- Awesome art

What went wrong?

- Few UI bugs

This was one of the most relaxed I had been from the beginning to the end in terms of the game development process. Both Marie and Jasmin pulled off the vision in terms of our artistic goals and we managed to deliver a staryrical narrative on current events.

Week 6: Jump (Hell Minion)



The sixth theme was Jump.

Concept:
For concepting for the theme I initially decided on doing some sort of platformer but the theme it would be a very obvious choice.

So, I decided on making the jump mechanics on a genre that would fit the jump mechanics.I planned on applying the mechanics on a top down game.It was clear that it would difficult to implement the jump on top down style game.

How did I approach the design challenge?
There were few questions to design such a game.

- Why would we require Jump in a top down?
  - A obstruction in the form of lava implemented
- How could it be fun jumping from platform to platform?
  - Initially I thought of some sort of item collection game within a time period. But later I came up with a character design and formed a narrative around her. Then the ideas came pouring in. Instead of collection items the player had to survive from enemies' very bullet hell style.

Core Loop was formed around these ideas.

Hell Minion Design Document

Game Identity / Mantra:

Top down Bullet Hell survival. The game revolves around surviving unique bosses over the given time duration.

Design Pillars:

Jump a core mechanic-No weapon No attack-Time based-Difficult

Genre/Story/Mechanics Summary:

Genre: Boss Survival
This Game revolves around Layla the fierce Demonslayer, stuck in purgatory. She is given a chance to escape this Hell by The GateKeeper having her survive his minion without her trusty armory.If she fails she will forever be stuck in this loop.
Mechanics: Just one -Jump.

Features:

Pixel Art-Music synced projectiles-One Button-One Mechanics

Interface:

Square Level Design
Controls: Mouse Click for both UI and the main game mechanics

Art Style:

Pixel Art very much representing Hell like surface and unique minion with projectile that complement them

Music/Sound:

Open source music

Hell Minion Post Mortem

What went right?

- Polished Mechanics that was very responsive.
- Level Design around mechanics
- Sound effects for the character (random response sound effect)
- Design pipeline that led to to usage of jump in a genre that would fit

What went wrong?

- Not updating to bitbucket regularly even if a small project.
    - During the prototyping phase i accidentally formatted my hard drive while formatting a flash drive
    - Had to redo the work form the start
- Level Design
  The level had few flaws where it could be completed by jumping on two tiles.
- Issues with the menus

The game was presented in Playtest Evening. Had positive feedback but could see the level design issue where a boss could be completely ignored by jumping on two tiles.
This game made me realise that projecting back is very important in this case updating regularly instead of the working game as a whole even if working alone.

Week 8: Physics (Dwarven Defense)

For week 8 the theme was physics.

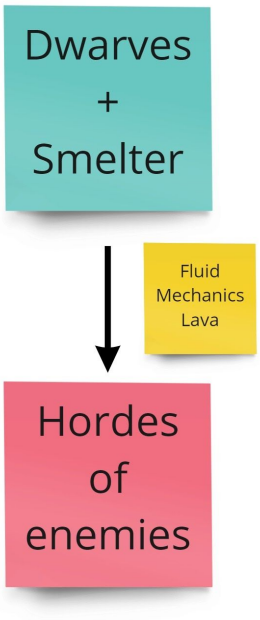
Unlike other games I already had a clear idea what i wanted to work with this theme. I had been working with a fluid simulation based on a Unity package that would seem very fitting for the theme.

Thought process for design:

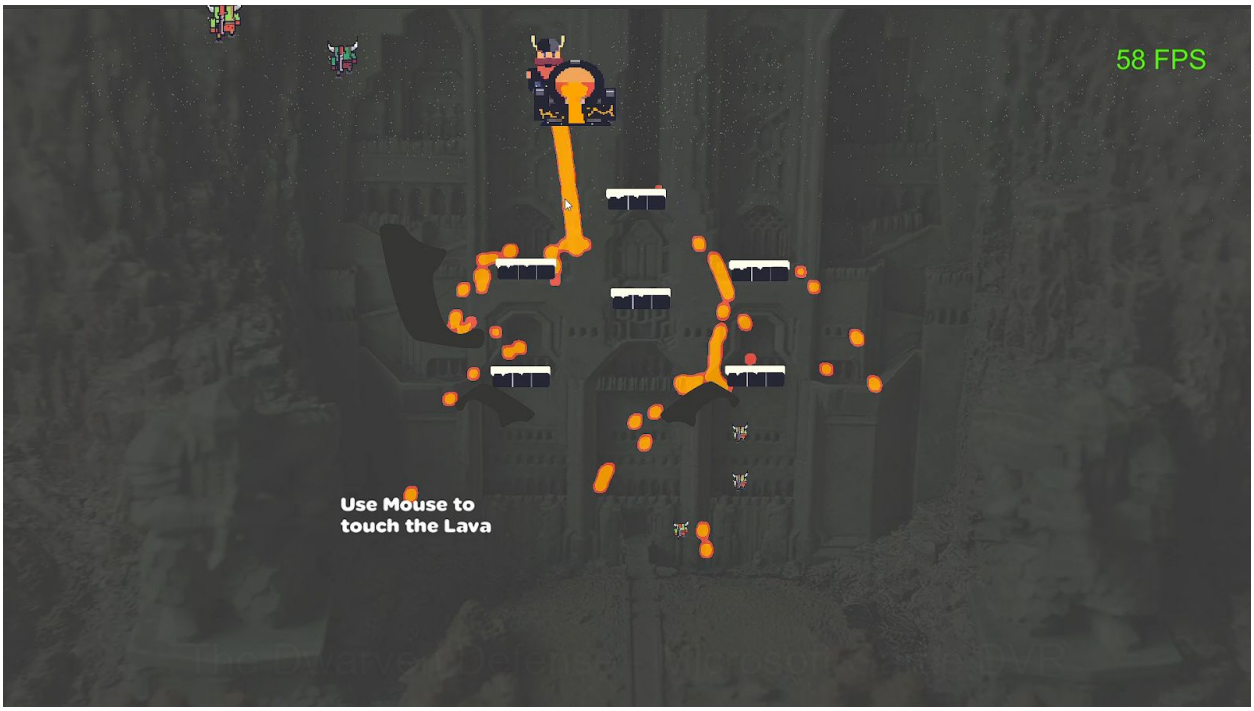
<u>What I had?</u>
A fluid simulation

<u>How could it be gamified?</u>
My initial idea was to do a puzzle based game. But the more I started playing around with the simulation, the more I built up a story around it and more gameplay ideas were formed.

Short Narrative: "A mere thousand army of us...Dwarves, Elves and Humans
We are outnumbered against the Evils beneath.
For now we shall borrow from the mountain again..
From it's core..Deep from it's fiery pits...
They shall meet their demise in the burning inferno..
No soul is safe, not even the undeads..
Hail the burning pyre, Hail the Molten Core.."



So after thinking about the narrative and what could be done with the fluid simulation. I was fixed on the idea of top down invader like game going away from a puzzle based game i had planned upon.



I created a small prototype playing around with the mechanics and created basic pixel art for the game.Next day Luisa asked if we could work together again on the week's theme. So Luisa joined me for the game and I explained how I had a prototype already working and she agreed upon helping me with the art assets for the final version with the key art, animation and the UI's.

In the coming days I played around with more interactables adding side mountain slopes and more ledges.I completely focused on the level design and editing sounds for the game while Luisa took charge of the game arts. We also decided on the name "Dwarven Defense" for the game based on the short written narrative dialogue.

Dwarven Defense Game Design Document

Game Identity / Mantra:

The Dwarven Defense is a classic Invader like game with interactable lava.

Design Pillars:

Mass Enemy-Increasing pace-Short single level

Genre/Story/Mechanics Summary:

Hordes of Orcs are assembling beneath The Forge Mines of Dregor. Even though outnumbered. The sparks of hope arise from the depths of the mountain.

Mechanics Summary:
Fluid mechanics would be completely interacted with and each dispersion of fluid or lava would have hit colliders.

Features:

A game set in Lord of the rings fantasy realm

Interface:

Wide level design with environments and objects that interacted with the lava.
Controls: Mouse Click for both UI and the main game mechanics as well as A/D or left/right for the movement

Art Style:

Pixel Art with Tolkien inspired characters.

Music/Sound:

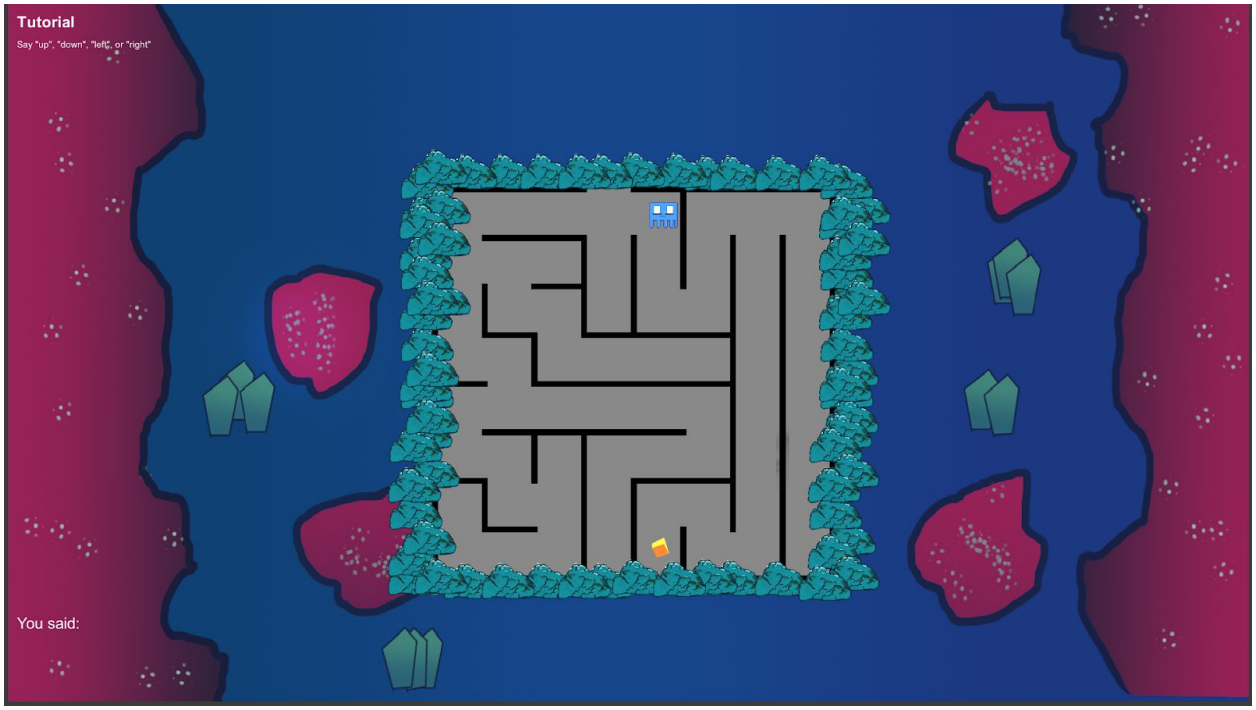
Open source music: Catalyst by Alexander Nakarada @thenakarada

What went right?

- Rapid prototyping
- Game performance optimization with load heavy fluid mechanics
- The Game Aesthetics

What went wrong?

- Linear gameplay
- Lack of playtesting resulted in very imbalance game



Week 9: Gift (Guidance)

This was one of the unique themes for a project.
So for this theme not only we were creating a game but also creating a game for someone special.I decided i would create a game for my grandmother.

Game Design Conceptualization:

What would be a game for my grandmother?
It was a difficult answer for me to decide.
As a background story she is slightly paralysed on her left arm due to a heart attack a year ago. And this was a very challenging issue not in terms of game design but what medium can she "Actually Play the Game".

I remembered I had recently seen a concept of speech control for Unity and if this would work, i could do something with that. I researched on this topic a lot for this project.I finally found the topic on Unity's Scripting References on Audio and video based scripting. I finally had something that could be a medium that would allow my grandmother to play the game.

I started working with a single sprite and had it working horizontally and vertically based on speech.
For the first iteration:
The sprite would move on dictation as left, right ,up and down.

And when i got it working I realised this could be perfect for a Maze like game. This would also be simple enough for her to understand.

I generated a few maze levels from the maze generator(Maze Generator) site.And added a player sprite and end goal sprite.
Then finally created controls dictation to english-nepali so that she can speak in the comfort of the native language.

The controls Dictation:

Right: Daaya
Left: Baaya
Up: Mathi
Down:Taala

The game was done and I sent it over back to my cousin to have then show it to her.She had a hard time believing that the game was actually following her commands and was unsure whether to be scared or amused of it.But overall she seemed happy for the gift I made. While my younger cousins seemed to very much enjoy the game.

Reference to the concepts used for the game:

Unity - Scripting API: KeywordRecognizer (unity3d.com)

Since this was very experimental in terms of Design. This project led me to think more about the various possibilities and what else could be done. The game from other students, especially this theme showed very experimental games that had a huge influence on solving real world issues.

From the huge resources of information and technology we have and we as game designers could have a bigger impact in society rather than creating games as a source of amusement.

Game can be researched furthermore:

- Games as therapeutic medium
- Games as Learning medium
- Games as Rehabilitation source
- Games as Socio-historical representation
- Games as Research tool (Simulation, Real World Data Experimentation)

This course really helped me understand that games can be far much more than pixels on screen and they might be a tool, a self identity, a visual masterpiece, a voice.

Week 10: Sequel (See You laser 2)

For the theme see you laser I worked with Ian who would be doing the art and reskin.

Our Approach to the theme:
For the sequel game. We discussed extensively on the game we liked from the course and strictly decided not to work on our own game. We both selected the game we liked and narrowed it down to the game we felt had a lot of potential to have a sequel.
We finally narrowed down to two game

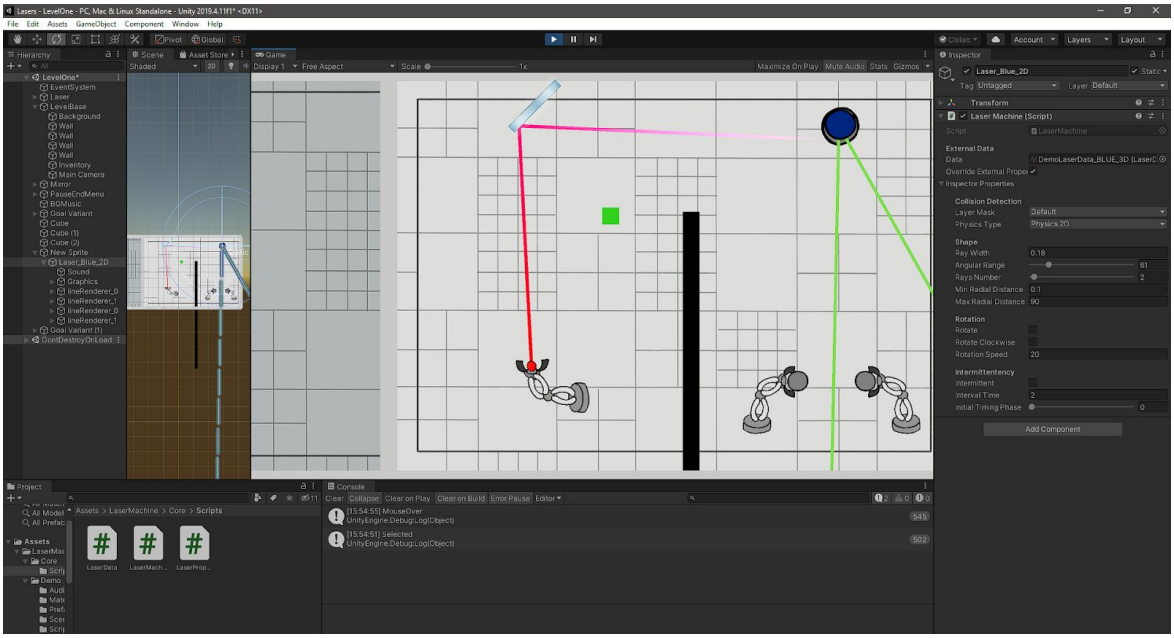
1. Mole in a hole (Nina/Martin/Martim)
2. See you laser (Marie/Gareon)

We both had a look into the repository on how readable the game repository was and how difficult or easy it was to reverse engineer the games.Open so we both decided on working with See You Laser's sequel.

Our Idea for the game:

- Have the main core mechanics as it is
- Introduce two new mechanics
    - A button
    - A Prism

I started working on the new mechanics while Ian worked on reskinning the assets of the game.



Coding Issue:

This project seemed very much simple in terms of game codes and interaction. Later found out how difficult it would be to modify certain aspects of the game. Having done with the button part with the door.

I started working on the prism that would take the main source of ray and diverge them into four directions.Visually it was achieved but the secondary ray would interact with the win goal sprites. I spent a huge portion of time researching how the line renderer worked in unity so as to properly be able to put our idea into a working mechanic. But even with so much time spent on the mechanics, I failed to achieve the goal.

Then Ian i discussed and decided to leave away the mechanics for later and work on the advanced button mechanics that would allow the door to open once the button was hit and close if the laser moved away from the button.

Then we ran into another problem: the line renderer would work for the opening of the door but wouldn't close one if the laser was moved. This would also take a huge portion of the development phase.

Finally we decided to make a simple puzzle based around the open door mechanics and let go of our other goals.We designed a couple of levels working around our limited mechanics and pushed our sequel of the game.

See You Laser 2 PostMortem:

What went right?

- Communication with each other
- Scoping the project
- Simple Level Design

What went wrong?

- Not letting go of desired feature when they were not working
- Time management

What I learned from this project?

- Dont keep on working on it if it keeps breaking
- Manage time better
- Failure is a part of problem solving

Learning from the course

Within the span of the course I think my understanding of Games completely changed. Apart from that I figured out patterns in the games I created that reflected part of myself in some form or the other.The main takings from the course for me are:

1.Game design as a form of Problem solving:

Within the course period, the way I approached game design completely changed. I think before the course my knowledge of game design was merely a piece of art with codes to form some sort of game play or interactive.But within the course period I was constantly questioning myself the reasoning behind the design choices I was making.
I started to view these designs as problem solving.Usually when the theme was introduced I would question myself either in Why/Where/Who sort of way. This led a large portion of the game I created seemed more in depth rather than for the sake of making it.I usually created a Design Document which would not be an actual goal but a guideline to follow so that not to go overboard with ideas and also keep in track with main visions.

2.Project Scoping:

I think project scoping was the most noticeable change I found in myself after the course. Creating small games in the given time frame allowed me to not only focus on a particular part of the game to perfection rather than have a prototype that would give a vertical slice of the entire game.This was definitely a big issue for me going through the course. I would usually have big ideas with each and every aspect of the game.But it took me a few theme's prototyping for me to realise what I was possible to create and at what pace in a week.

3.Documentation:

Usually documentation for me was just to submit for an assignment. But for this course I religiously made documentation before,while and after creating a game. Documentation of things like the design documents helped me to stay on track and had a basic overview of the main goal.I was more focused and always felt good while all your to-do list or something got green ticked.

4.Researching:

Coming from a huge semester project from second semester narrative design.It was far much different in terms of coming with a concept and having it complement the theme . During the course I watched enormous amounts of GDC talks or documentaries just to get inspired.This really helped me to shape thinking and understand the mentality of successful sometimes unsuccessful game dev veterans on game development.Along with that I was also always researching over what tools and features we had on our disposal. I started following unity's updates and features started going through their scripting documentations.

5. Learned about myself:

I think this was one of the things that I was most unaware of. That as an artist or a creator always has his or her self reflection on a piece they paint or mold. I thought the authorship idea was like one the important learning we got from the course and the way this idea was delivered after we already had few games made it clear we had games that were some way or the other a part of us. Like for my love of heavy metal music and love of movies were always influencing my design to a very Heavy, ambient and theatrical games.

6.What is a game?:

From this course I realised games with guns and action were ot only the game. I had a chance to see amazing games from my fellow students that were more than just games. Sometimes voicing a cause, sometimes would be a visual porn, sometimes awaring us other times just an artist thought they were packaged in the form of an interactive.

All in all this course was especially delivered for what I wanted to achieve while joining the University. This course not only helped with our skills but also helped us sharpen nour understanding.At the end everyone had a bunch of games at their disposal to call them their "own".