

IGB100 Cycle 1 Mini-Game Design Document



Game Name: Angel & Witches

Author: Krittaya Kruapat

Student ID: n12142492

Date: 25/03/2025

Contents

Notes	2
Evidence of in-class work	3
Game Overview: Angel & Witches.....	4
Evidence of in-class work	5
Gameplay and Core Mechanics	9
Evidence of in-class work	14
Interface/ Visual System Details.....	17
Evidence of in-class work	21
Game Design Review and Reflection	24
Evidence of in-class work	25
Screenshots of Final Game.....	27
References.....	30
External Game Assets References	30
Music Reference	30
Sound effects Reference	30
Mood Board Image Reference.....	31

Notes

All 'Evidence of in-class work' sections are clearly separated from the rest of the document, as they are on the blue pages of the document.

Evidence of in-class work

Week 3 Design Activities: Draft Logo Design



A Very First Draft of the Logo



Game Overview: Angel & Witches

Angel & Witches is a SHMUP game where you play as a kind-hearted angel on a mission to purify mischievous witches and bats lurking in the magical night sky. The main goal is to achieve the highest score by purifying the witches and defeating the bats. Use your heart magic to transform the witches into good-hearted beings. Meanwhile, you must avoid poison attacks from the witches and defeat the bats to rack up points. Another challenge is that you have only three lives to keep you going. The game takes place in a magical, purple night sky with floating clouds, where witches on brooms and bats soar through the air.

The mood board conveys an ethereal and magical atmosphere with soft clouds, serene skies, and celestial imagery, all in a pastel-colored theme. It features angels with glowing wings, whimsical witches, and dreamy landscapes of stars and moons. The visuals support the game's optimistic tone, where light and magic transform darkness into beauty, setting a peaceful yet dynamic stage for gameplay.



Evidence of in-class work

Week 1 Design Activities: Notes on how the 2 SHMUPs you played made you feel.

1. NEOBILAST REALITY SHIFT:

The design is cool. The variety of spaceships, weapons, and effects excited and interested me. I'm not a big fan of spaceship shooting games, but I never got bored because there was always something happening.

2. Pond Protector:

The homepage design and the sound are so cute. There is the different music after playing making the mood change. I felt less violent while playing this game.

Week 1 Design Activities: Notes on the gameplay that may have created these feelings.

1. NEOBILAST REALITY SHIFT:

I like the Help Page; it contains everything about the game, including enemy types, controls, and how to play, which made me feel welcomed and informed. The different types of player projectiles and levels to achieve made me feel more curious and motivated to progress. I felt it's a lot of function of the spaceship that I need to get formular before then it would be more enjoyed.

More about game play

2. Pond Protector: about the game play

At first, I felt limited because there are only two directions to move but it's made me feel it's easier to control, there also power boost and lives increase, feeling ensure that I can keep playing without dying. The boss of the game has the projectile which target the frog directly it's harder to beats, it force you to move all the Time

Week 1 Design Activities: The three SHMUP player experience goals created by your studio.

1. **Angel and the witches** – make the game positive and optimistic by the story of the angel purify the villains by maybe using the magic to them.
2. **Dog and Cat** – a funny and cute game where two animals sit on opposite sides of a fence and throw fish or meat at each other.
3. **Tom and Jerry** – another funny and cute. It's like the cartoon characters which the Tom chasing Jerry, and the Jerry shooting the cheese.

Week 2 Design Activities: Game Concept

I eliminated the Tom and Jerry one of the SHMUP player experience goals from Week 1 because it's kind of a random idea for which I think there need platform for chasing each other, giving to much the platformer vibe.

Game Concept: Angels and Witches

Angel and the Witches – SHMUP up style in the positive, optimistic and less violent game. There are many witches planning to destroy the world, but the only way to prevent this is for the Angel to turn them into good ones. The player as the Angel flying around to shoot heart to the witches. However, the Angel can be damaged by the witches' poison and die with the smile of saving world.

Team Feedback

- Simple, easy to implement and understand
- Good idea of turning witches into good beings using love and heart
- How can it become more challenging? More obstacles for increased difficulty?
- Does the angel have a limited number of lives? How does the health regeneration or healing work?
- Other abilities for the player or angel power-ups?

Game Concept: Dog and Cat

Dog and Cat – a funny cute game where the players control two adorable animals, a dog and a cat, sitting on opposite sides of fence. Their goal is to attack each other with their favorite food items (fish for the cat and meat for the dog). The challenge is the fence between them, the wind , and also the gravity physic to throw the item over the fence.

Team Feedback

- The idea of the cat and the dog shooting over fence is interesting
- How does the game progress? Is there a health bar or score system?
- More variety of the game play or obstacle or power up?
- There is no dynamic movement, IS IT EVEN SHMUP game?

I eliminated the Dog and Cat after the discussion as it's might not be an ideal for the SHMUP game style. The Angel and The Witches concept is on point and visualizable.

Justification or improvements

- Clear Health and Damage system
 - o The Angel has three hearts, losing one each time it collides with poison.
- Increase Challenge:
 - o Additional enemies like Bats, Ghosts, and Pumpkins to add more variety and difficulty to the game
- Additional Ability
 - o Power-ups that allow the Angel to clear enemies within a certain area around them, adding more strategy and excitement.

Revised Game Concept

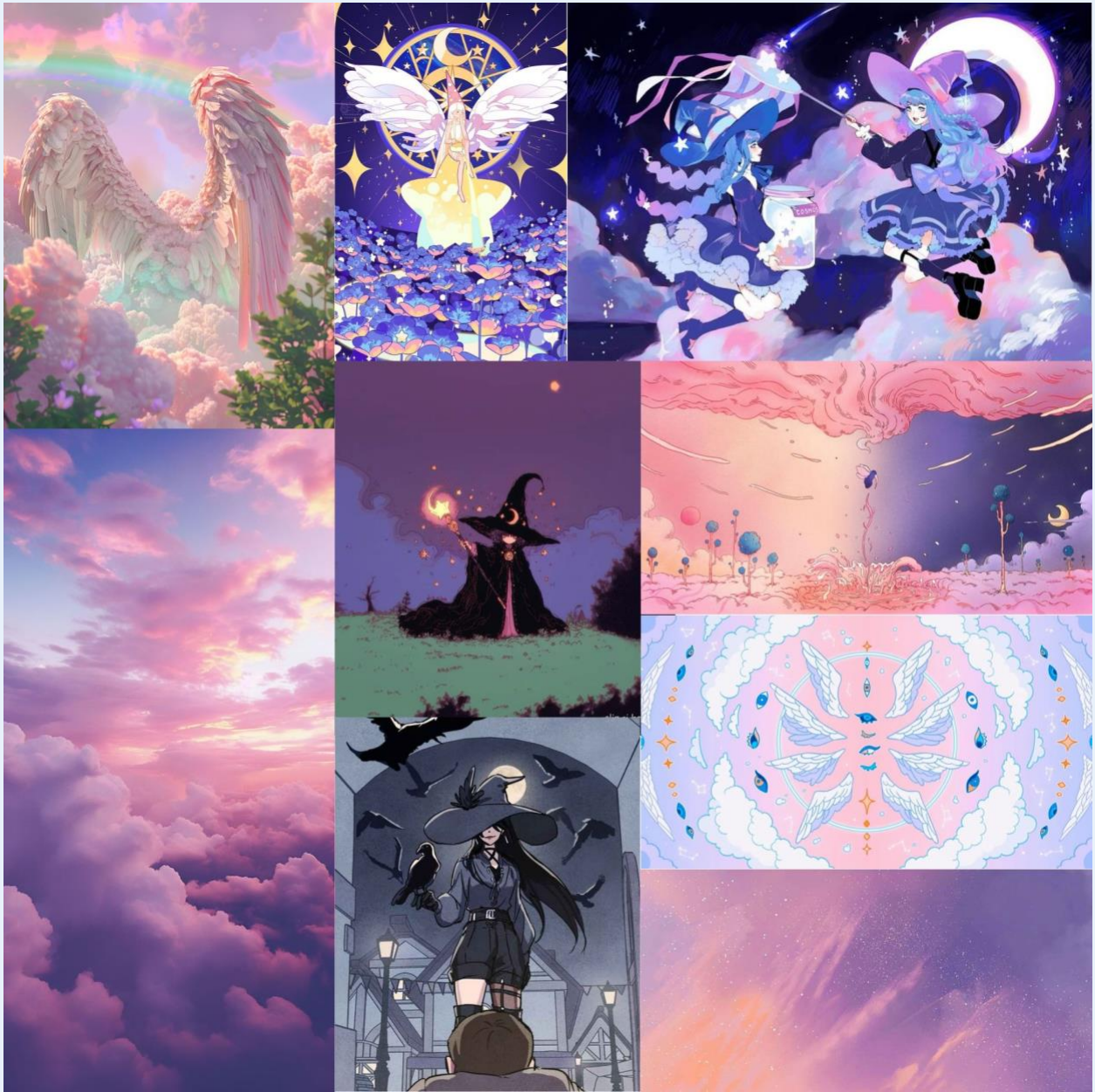
Angel and the Witches – A SHMUP-style game with a positive, optimistic, and less violent theme. Many witches are planning to destroy the world, but the only way to stop this is for the Angel to transform them into good beings. The player controls the Angel, flying around and shooting hearts at the witches. However, the Angel can be damaged by the witches' poison. As the Angel flies through the skies, the player must dodge incoming poison projectiles from the witches. The Angel's health is represented by three hearts, which are lost each time the Angel is hit by poison. If all hearts are lost, the Angel dies—but even in death, the Angel's smile remains, knowing the world has been saved by the act of turning the witches into benevolent beings.

Week 2 Design Activities: Mood Board Development Process

Mood adjectives describing Angels & Witches

- Pleased
- Optimistic
- Loved
- Delighted
- Positive
- Protective

Selected Images/ Mood board



Color Palette



#EEBDB9  #E5D1E1  #CDE3EB  #997BC8  #C692C9 

Gameplay and Core Mechanics




Objectives



The player's main goal is to purify the witches by turning them into good beings using heart projectiles, while maximizing their score. This is achieved by defeating enemies and avoiding damage during gameplay.

Core Challenges

The player begins with three lives and must maximize their score within this limited number of attempts. The player must strategize and play carefully to survive and score as many points as possible within the given number of lives.

Game Object

Object	Attribute	Value	Player Interaction
Player			
	Health	3	<ul style="list-style-type: none">- Player can move up, down, left, right, and diagonally in four directions using the keys (W, A, S, D or all four arrows) and can hold Shift to double the speed.- Player can press Space to shoot (Heart), damage, destroy the enemies
	Move Speed	1 (double the speed when the shift is held)	
	Projectile	Heart	
	Move Speed	5	
	Lifetime	4 second	
	Damage	1	
Enemies			
	Health	2	<ul style="list-style-type: none">- Player can press Space to shoot damage, destroy the enemies- Player can receive damage by collided with the Witch or her projectile (Poison).- Player can dodge the damage of the poison and the Bat but must not let the Witch survive and pass through
	Move Speed	0.1 (Move Speed is pauses after the first shoot and move after 4 shots)	
	Damage	1	
	Score Value	100	
	Shoot Interval	1 second	
	Post-Shoot Delay	3 second	
	Spawn Rate	1.5 second	
	Spawn Delay	2.5	
	Projectile	Poison	

Witch Projectile 	Move Speed	5	- Player could receive the damage if the witch moves to another side of the screen
	Lifetime	5 second	
	Damage	1	
Bat 	Health	1	
	Move Speed	5 (Wave movement)	
	Damage	1	
	Score Value	50	
	Spawn Rate	one1.5 (3 Bats)	
	Spawn Delay	2.5	

Rules,

The player must avoid enemies and projectiles to achieve the highest score within three lives. Shoot enemies with heart projectiles to purify witches and destroy bats, while preventing witches from crossing the screen. Collisions cause 1 health loss, and the game ends when health is 0.

Event and Effects Associated with Actions and objects

- Heart Hits Witch - The player shoots a heart at a witch, reducing its health. When the witch's health reaches 0, it is destroyed, and the player earns 100 points.
- Heart Hits Bat - The player destroys a bat by hitting it with a heart, earning 50 points.
- Player Gets Hit by Enemy/Projectile - The player is hit by an enemy (witch or bat) or projectile (poison), and their health decreases by 1, triggering a hurt effect.
- Player Death: If the player's health drops to 0 due to enemy or projectile collisions, the game ends, and the final score is displayed.

Rewards Associated with Player Behaviors

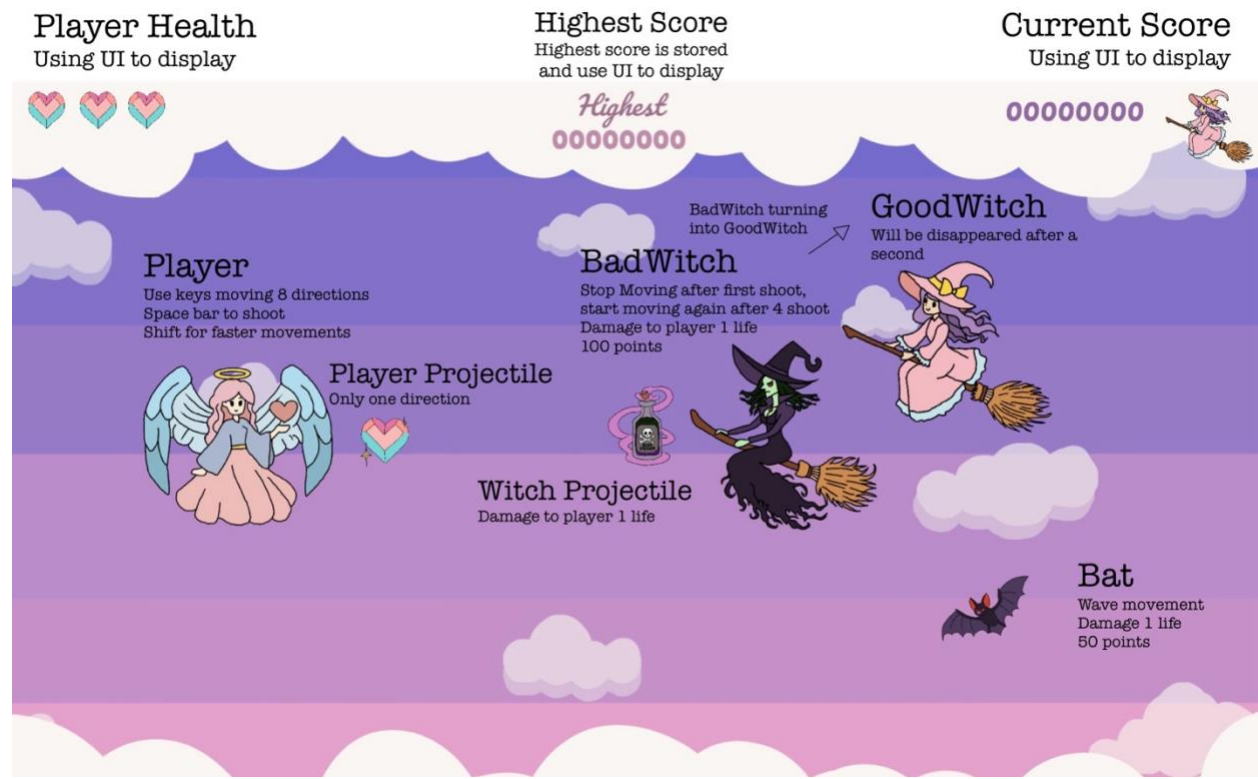
- Reward 100 points for purifies a witch by shooting it with 2 hearts
- Reward 50 points for destroys a bat by hitting it with a heart.
- Player survive - No direct score for just surviving, but continued gameplay allows earning more points.

Penalties Associated with Player Behaviors

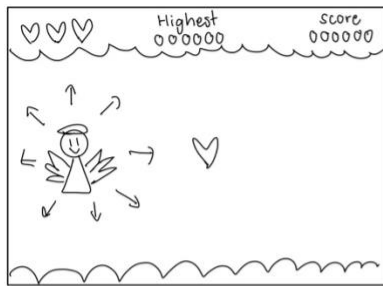
- Player's health decreases by 1 when player collision with Witch, Poison, and Bat (bats also be destroyed when collision with player)
- When the player's health reaches 0, the game ends, and the player must restart after death.

Gameplay Sketches/ Diagrams

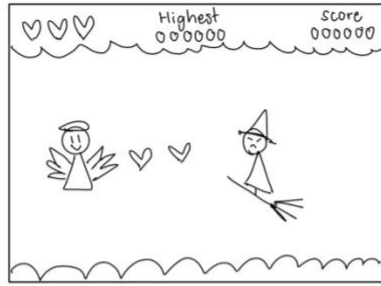
Gameplay Mock-up Diagram



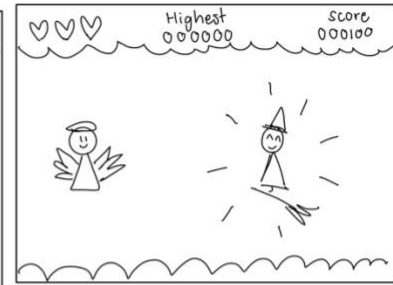
Flow & Progression of Gameplay Sketch & Player Actions Sketch



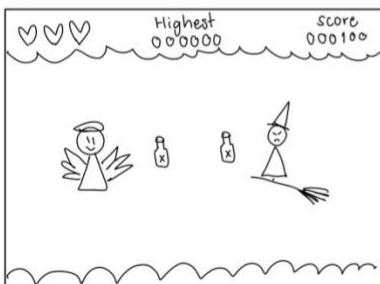
Player movement & direction
Space to shoot, shift for faster



Player shoots witch



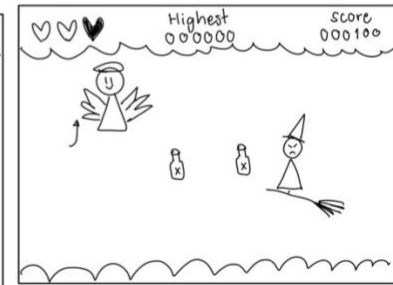
Witch turning to Good
Score + 100



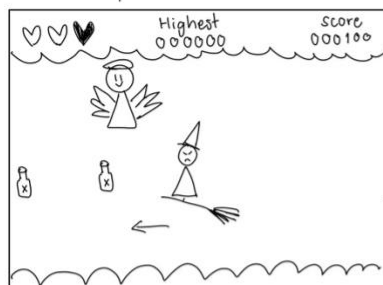
Enemy shooting Player



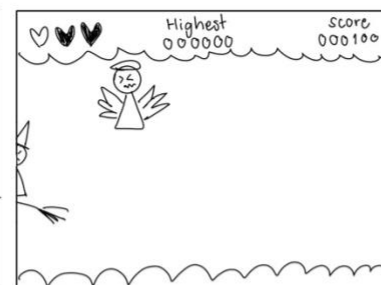
Player Health Decreased



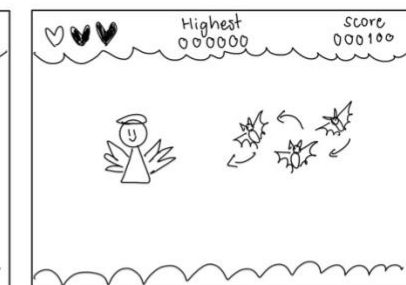
Player Dodge the Poison



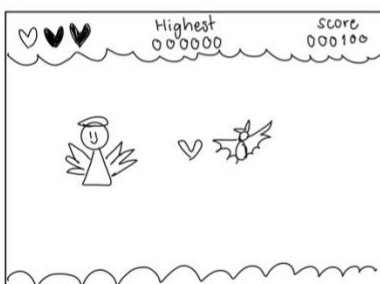
Player not interact with
the witch



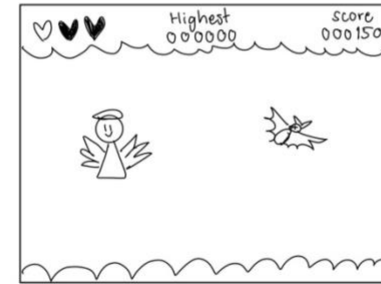
Player Health Decreased



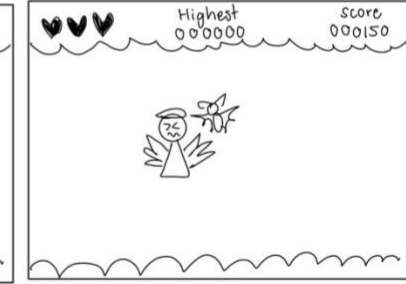
Bat has wave move



Player shooting Bat



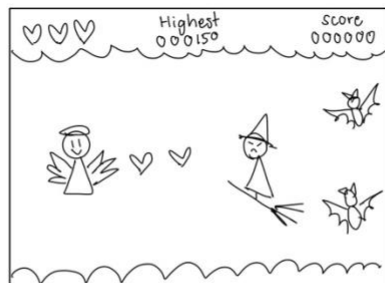
Score + 50



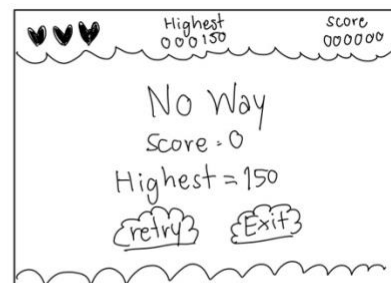
Another bat attack
(collide)
Health decreased



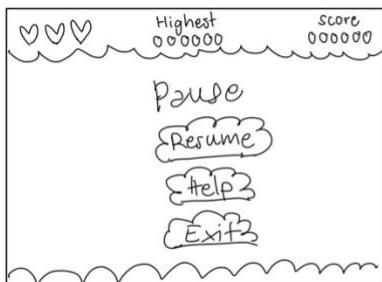
GameOver Page
Score = Highest :
"Amazing"



restart game



if score = 0, "NO WAY"



Press ESC to pause

Evidence of in-class work

Week 2 Design Activities: All Images/ Diagrams used to Prototype Game.

Gameplay Concept Sketch



Flow & Progression of Gameplay Sketch





Character Design:

I am planning to give more points as it can be shown that the number increases, which could make the player feel more ambitious.

- Angel with a heart
- Witch with Poison
- Bat
- Flying scary head (Extra from peer)
- Pumpkin (Extra from peer)
- Ghost (Extra from peer)

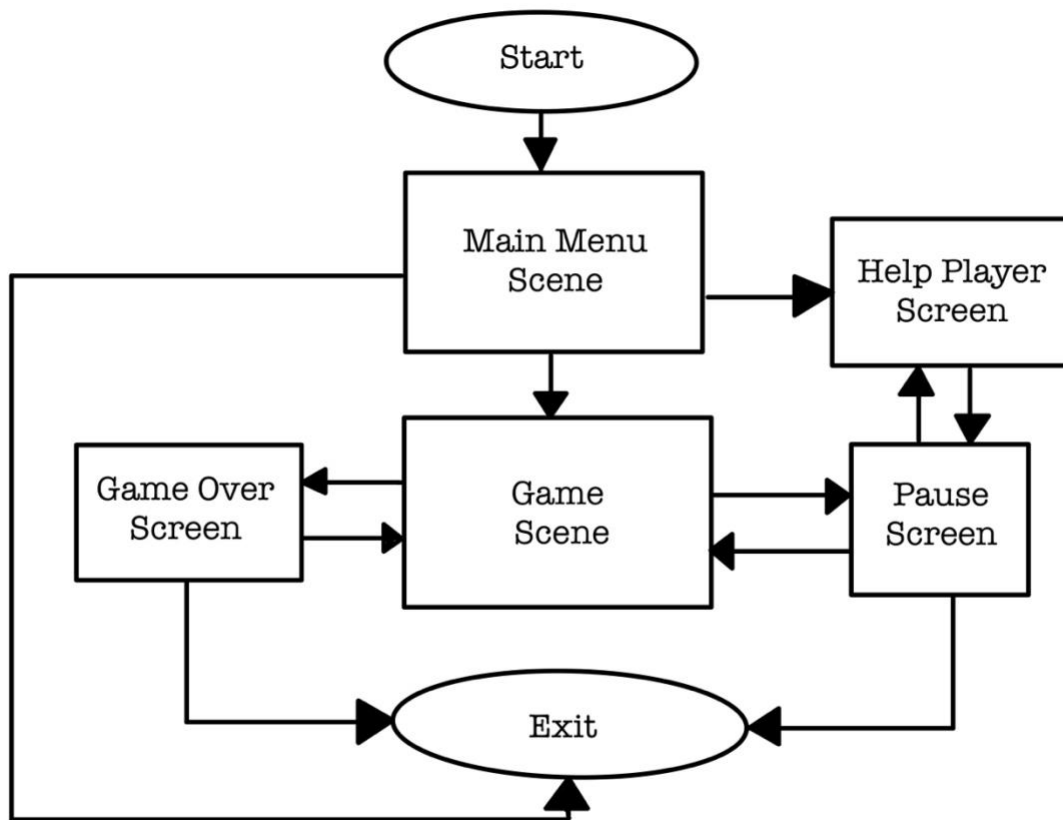
Week 3 Design Activities: Gameplay Refinement in my sketch notes from group discussion or/and feedback

Feedback: Feedback: Solid foundation for SHMUP. The main mechanics (shooting hearts at enemies and purifying witches) are clear and engaging, and the flow of progression is smooth. The Sketch could be more organized with the real characters, could identify each object.



Interface/ Visual System Details

Screen Flow Diagram

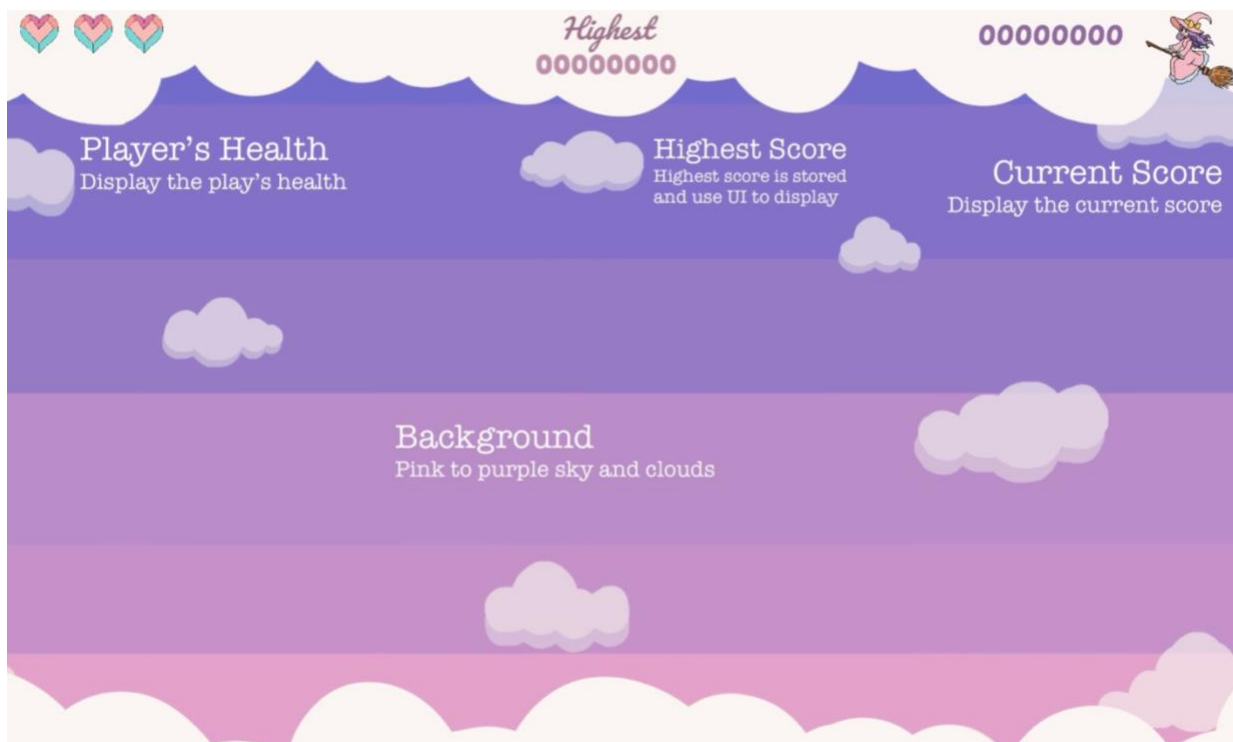


The game begins when the .exe file is opened. From the Main Menu Scene, the player can choose to Start Game, which takes them to the Game Scene, view the Help Player Screen for instructions, or Exit the game. In the Game Scene, the player controls the Angel to purify witches and destroy bats. The game can be paused, leading to the Pause Screen, or if health reaches 0, the Game Over Screen appears. The Help Player Screen provides instructions and allows returning to the Main Menu Scene. The Pause Screen offers options to resume, return to the main menu, or exit. On the Game Over Screen, the final score is displayed, and the player can either restart or return to the Main Menu Scene.

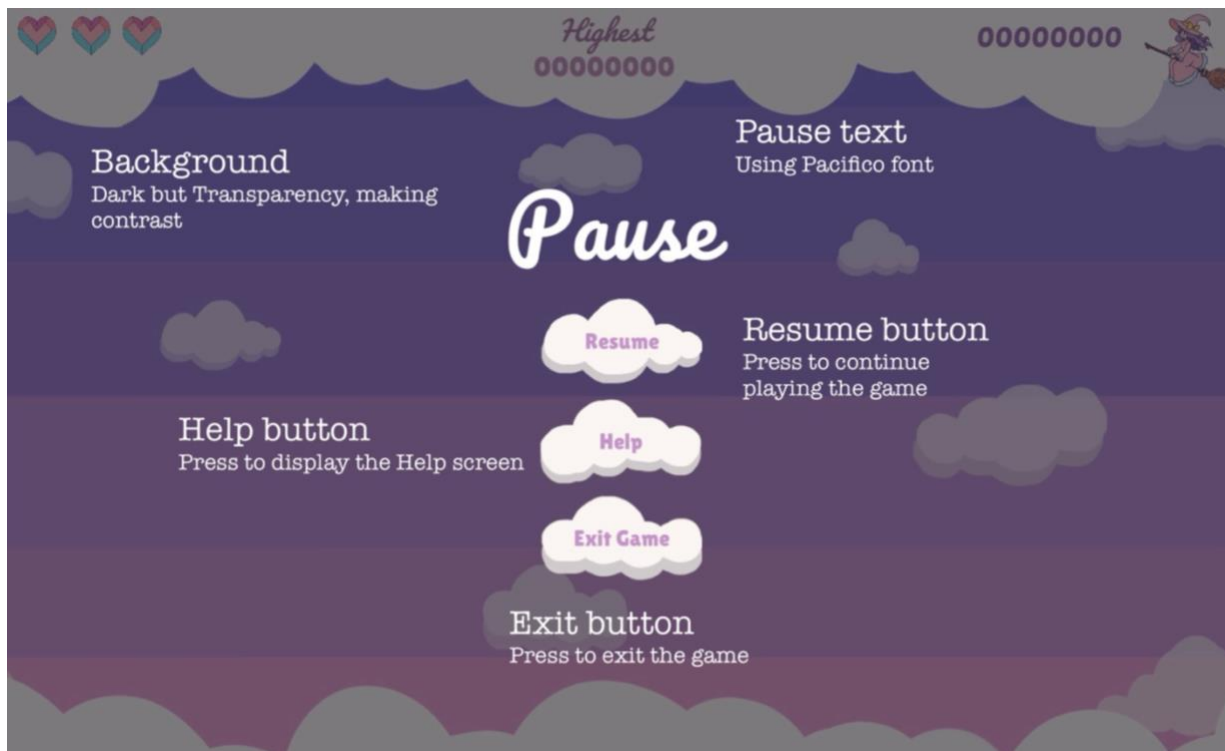
Main Menu Screen Mock-up



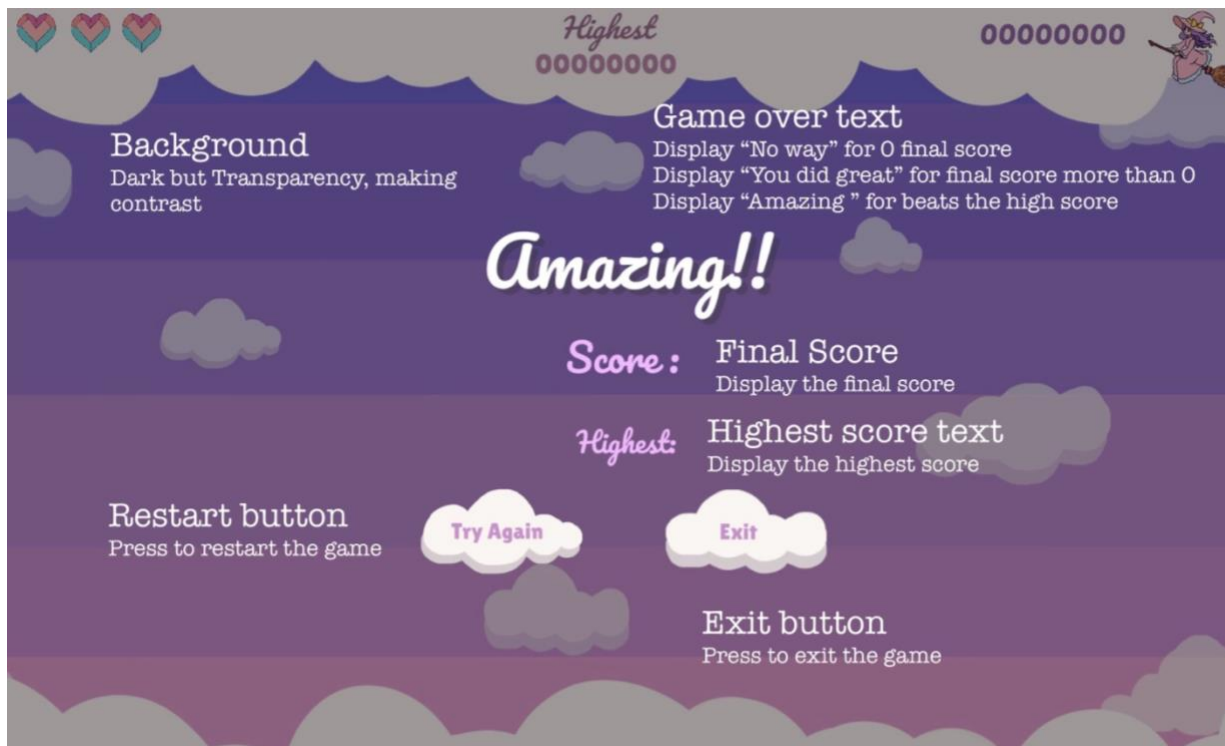
In-Game User Interface



Pause Screen



Game Over Screen



Help Player Screen

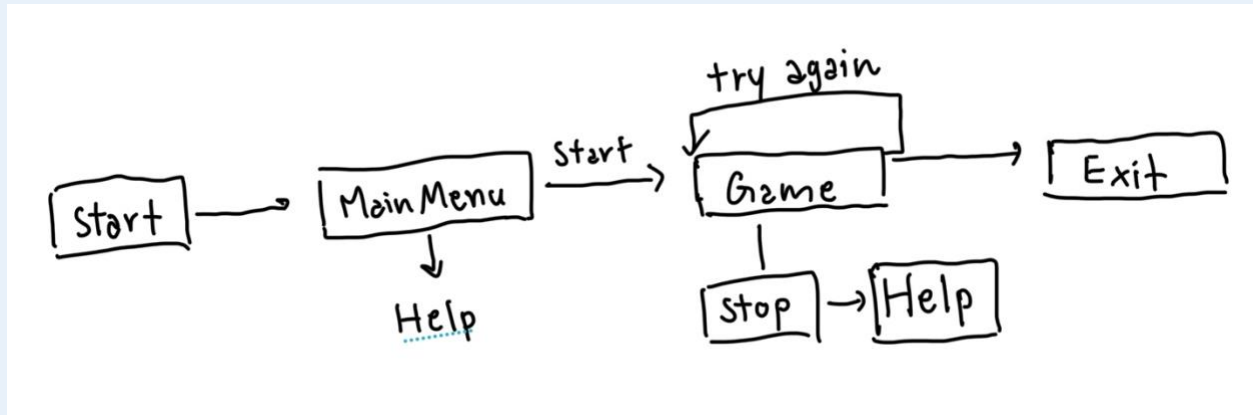


To control the game, the player uses the WASD or arrow keys for movement, with the Shift key held to move faster. The Spacebar is used to shoot hearts, and the player has three lives, represented by hearts. The player must avoid enemies and use their shooting ability to purify witches and destroy bats.

Evidence of in-class work

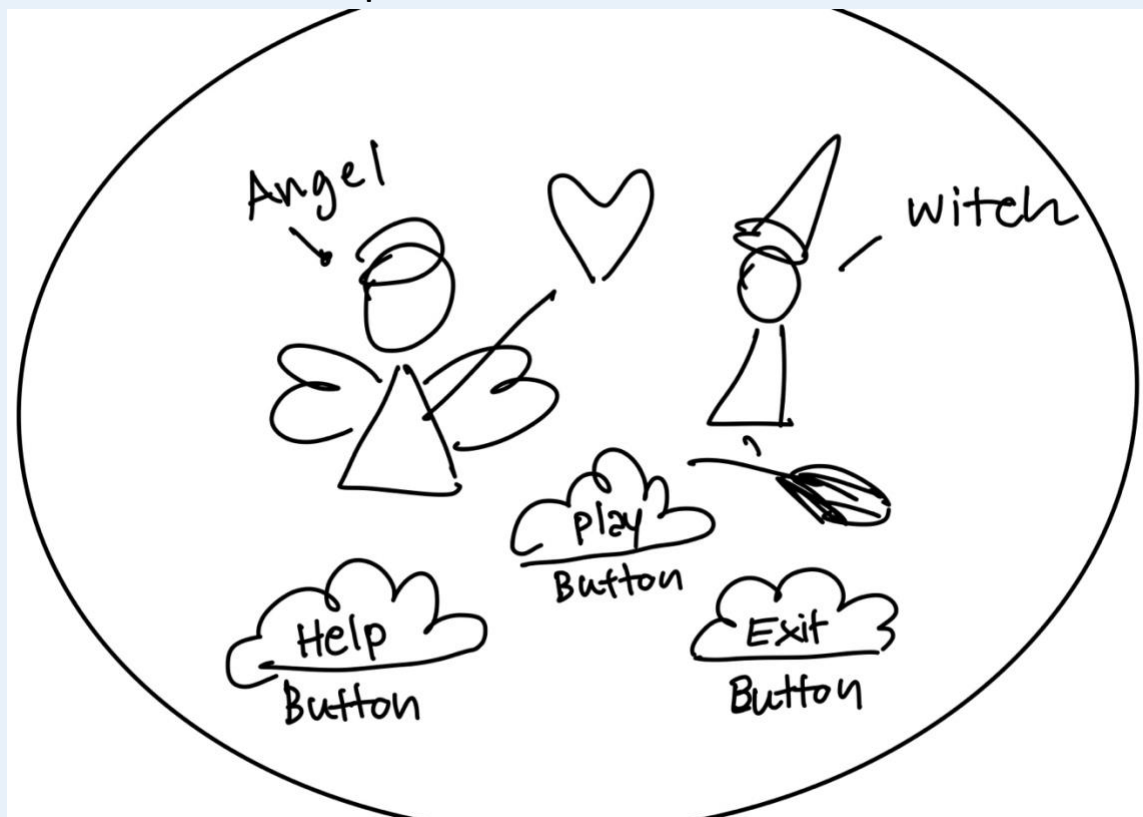
Week 3 Design Activities: Interface Design Visual

Screen Flow Diagram

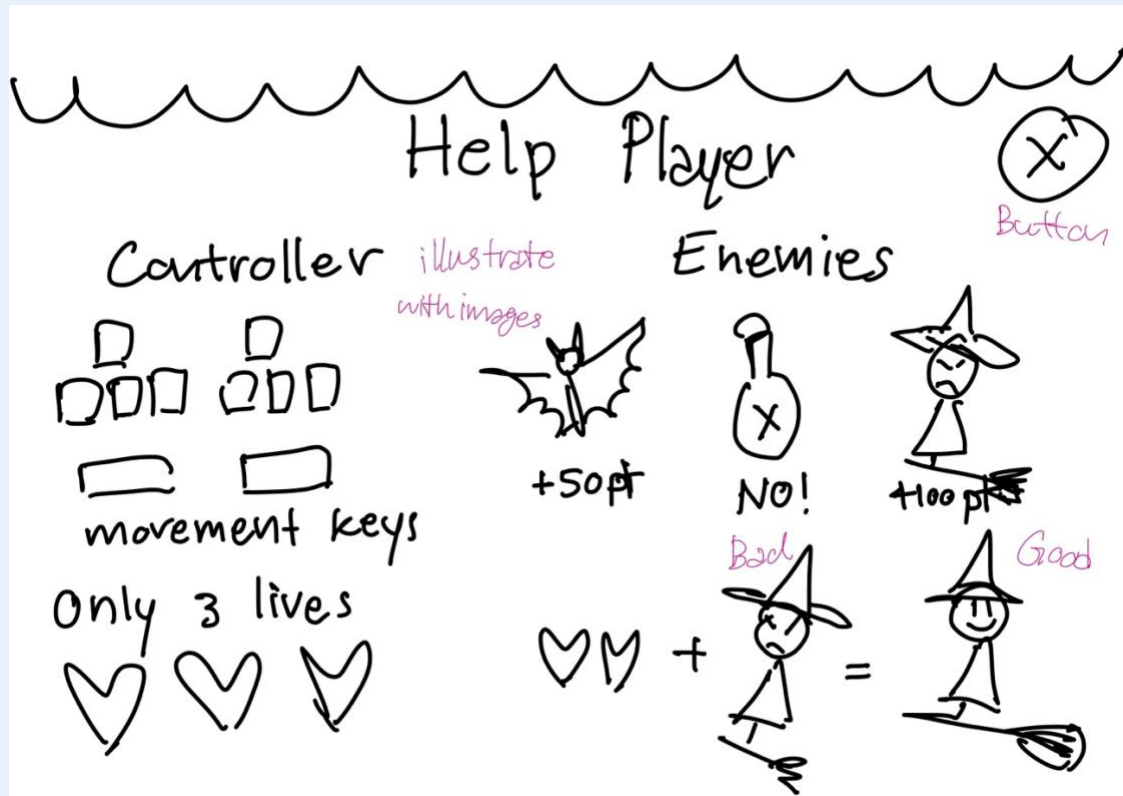


My screen flow diagram is pretty simple as I only have 2 scenes which are Main Menu and Game, then the screen of help in each scene and pause scene. My SHMUP game is a loop.

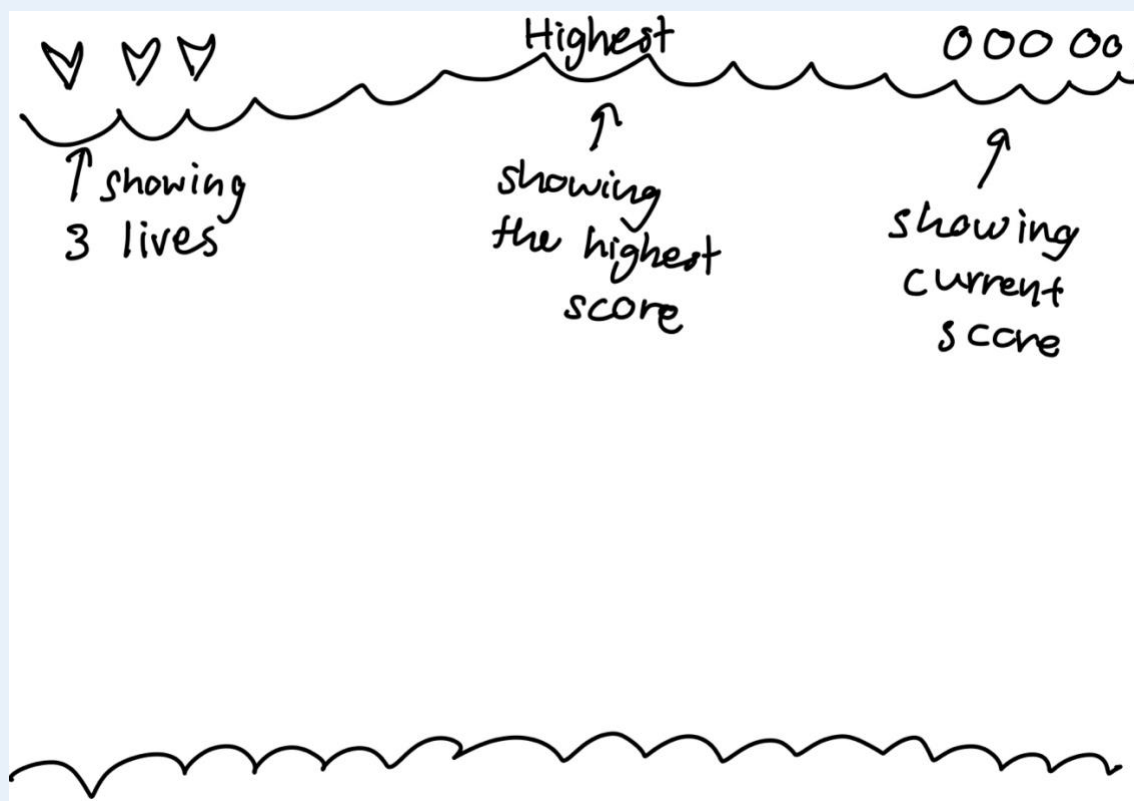
Main Menu Screen Mock-up



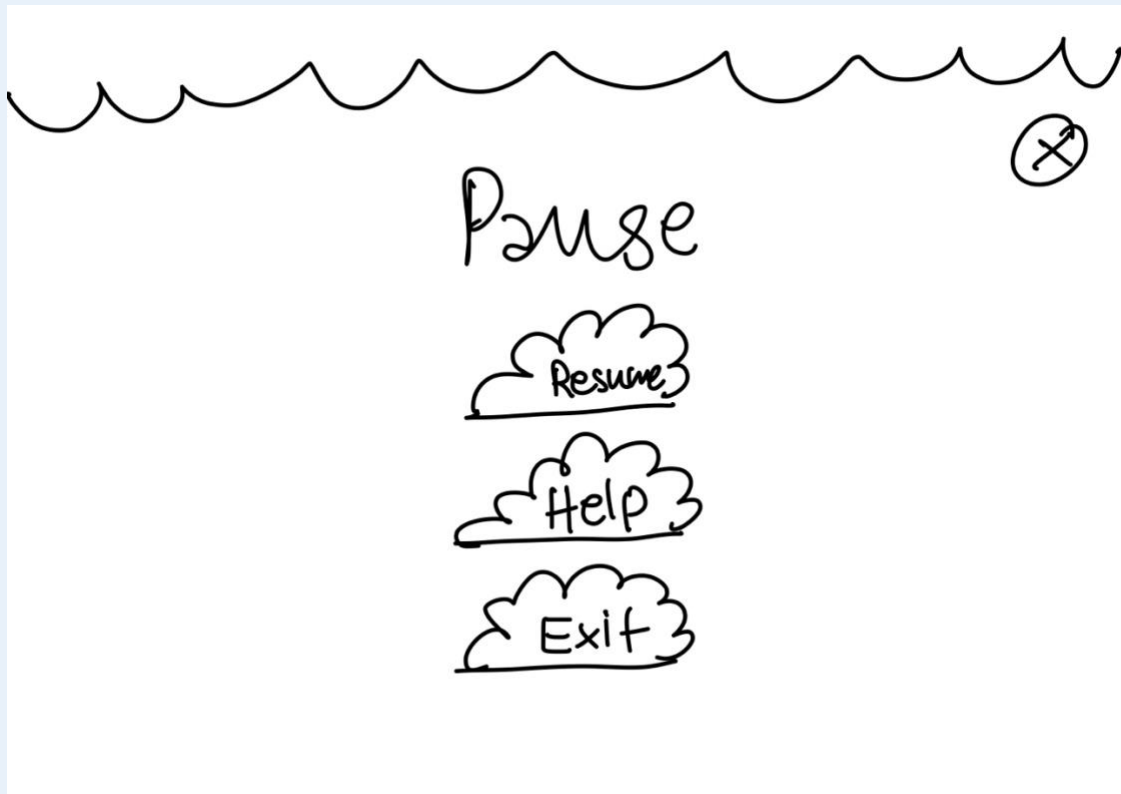
Help Player Screen



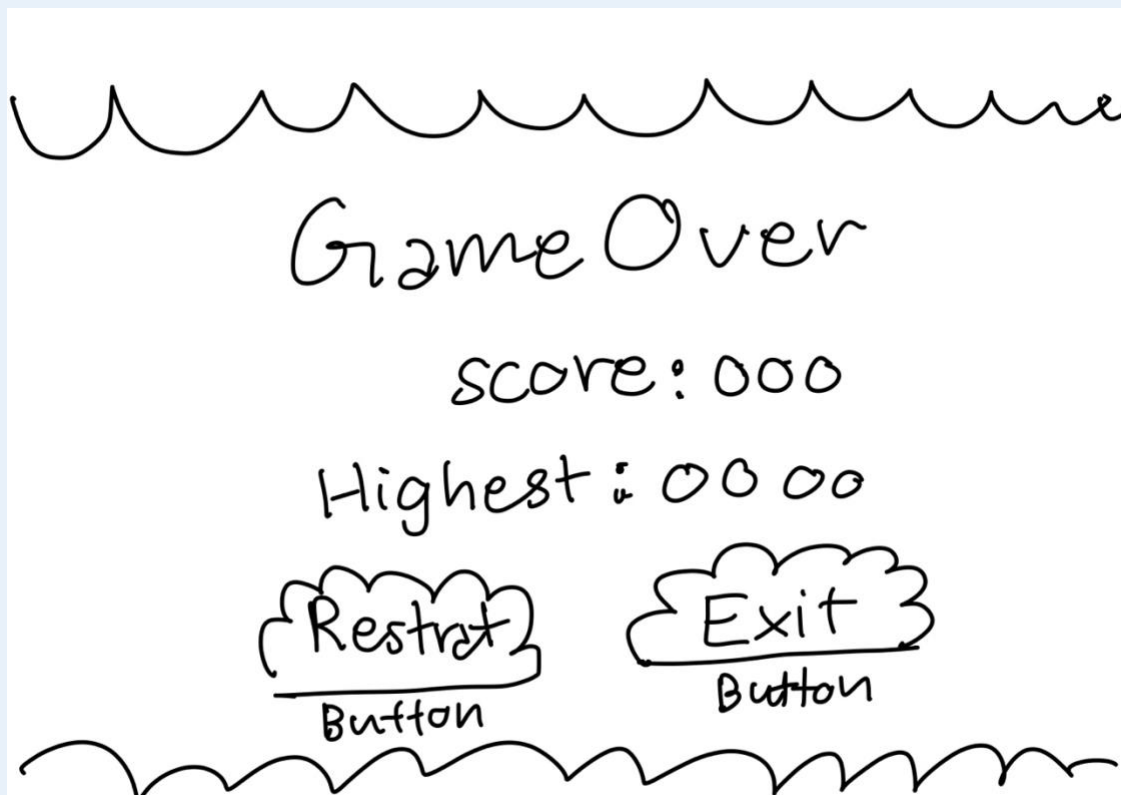
In-Game User Interface



Pause Screen



Game over Screen



Game Design Review and Reflection

Two aspects of SHMUP's design that supported the intended player experience are:

1. **Game Aesthetics:** The overall vibe created a positive and immersive experience for players. The combination of animations, sound effects (SFX), and music helped establish a flowing game environment that drew players in. I found that the visual animations, particularly the witch transformation from evil to good, effectively conveyed the theme of purification and optimism.
2. **User Interface:** The UI was designed to be simple and intuitive, making it easy for players to understand their progress, health, and score without confusion. This allowed players to focus on the gameplay and challenges, rather than struggling with understanding the interface. By focusing on clarity, I felt that the UI contributed to the overall accessibility of the game, enhancing the user experience.

Two aspects of the design that could be improved are:

1. **Enemy variety and power-ups:** the more enemy types with different abilities, as well as power-ups dropped by enemies, would add much-needed depth to the gameplay. This would encourage more varied strategies and keep the game feeling fresh, particularly as players move through multiple rounds. The lack of varied rewards or power-ups may have limited the potential for creating exciting gameplay loops and different playstyles.
2. **Level progression and end game structure:** As it stands, the game feels like a single, continuous experience without clear level progression or increasing difficulty. By introducing more levels with different scenes, patterns of enemies, and escalating difficulty, I believe players would feel a stronger sense of progression. Additionally, the end game animation, would enhance the emotional impact of completing the game, making the player feel that their actions throughout the game truly mattered.

The two most effective aspects of the design process were:

1. **Gameplay Sketches:** Creating gameplay sketches helped me visualize the game, making it easier to understand how the game would look and how it would function. By seeing the sketches, I could quickly adjust and refine elements like player movement, enemy behavior, and the layout of the UI. The visual representation of the gameplay helped me stay focused on the core design while ensuring a coherent visual flow.
2. **Setting the Player Experience:** The activity where we reviewed the player experience, analyzing how we felt while playing the game, was another key component. By setting a clear goal for the player experience, I was able to align all aspects of the game, including character design, mood board, UI, and overall aesthetics. This focus helped me shape the game's emotional impact and guided the creation of elements that enhance the player's experience.

Evidence of in-class work

Week 4 Design Activities: What is good performance?

1. What are your performance goals for cycle 1?
 - Get familiar with the Unity platform for building the game, as I have never built a game before (I haven't taken other IGB courses) also get familiar with C# that scripting for the game.
 - Develop my game development skills by making the first successful SHMUP game without any error and able to build and play in a short time (2-3 weeks), Learning how to implement the core mechanic in the SHMUP game and how's it works
 - Also develop my animation, and design skills as they also one of essential aspects of building up a game. Make a creative design and ideas for the game
2. How will you judge whether you have met these goals?
 - Building the successful version of the SHMUP game on time without error.
 - Ensure that I explore the various of the games in many ways, and have a unique design
3. What Strategies are you using to achieve these goals?
 - As I'm new to the game design and unity, I spend most of my time learning how to implement those and build up the SHMUP game via workshop, internet, YouTube, etc.
 - I have dedicated around 2 weeks and put much effort as possible to finish this prototype and another week for the documentation.
 - I have created my own characters, arts and animations making it unique

Week 4 Design Activities: Triage Table

Issue Severity	Problems
Level 1: Cosmetic	Add more different type of enemy Add more level Add more features to the Main Menu (sound control)
Level 2: Minor Problem	Some of the effects are missing Delay Animations
Level 3: Major Problem	UI: Help player, instructions Score Ui: The score and highest score are still incorrect.
Level 4: Catastrophic Problem	Game Bugs: Prefabs not dying Errors: Scene Missing

Week 4 Design Activities: Cycle 1 Reflection, Discussion and feedback

What worked well in achieving your intended player experience?

- The vibe of the game gives a positive feeling, and the player can feel the theme.
- The animation, SFX, and music create a very good flow and make the player feel involved in the game.
- About the UI, simple to understand

Areas for improvements/ insights

- There could be more variety in enemy types and rewards, such as health boosts or power-ups dropped by enemies, making the game more interesting.
- It could be more levels: making more scenes, pattern enemies, so/and you would have the end game
- Talking about the end game, there could be animation for the winner that the angel saves the world or all the bad witch turning to the good one.

Aspects of the design process that were most effective.

- Gameplay sketches help me a lot in the design process as it make a image of how the game we about to make and can easily make other peer understand how the game will look like and how it will work.
- Another activity is that setting the player experience, as we did the review how we feel when we were playing the game, by setting a strong goal of the player experience also can help me easily shape the way I create other elements like the characters/ mood broad/ UI and all the game's virtual

Screenshots of Final Game

Main Menu



Help Player Page



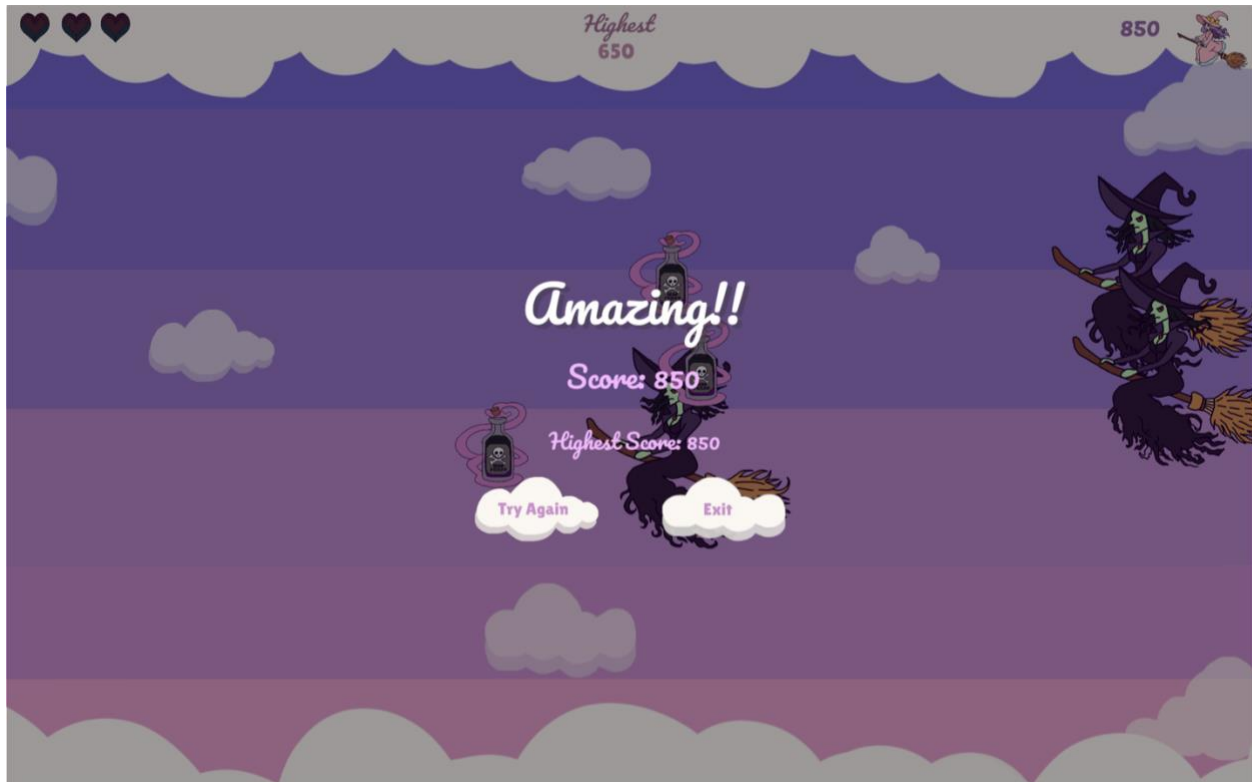
In-Game 1: Killing bats



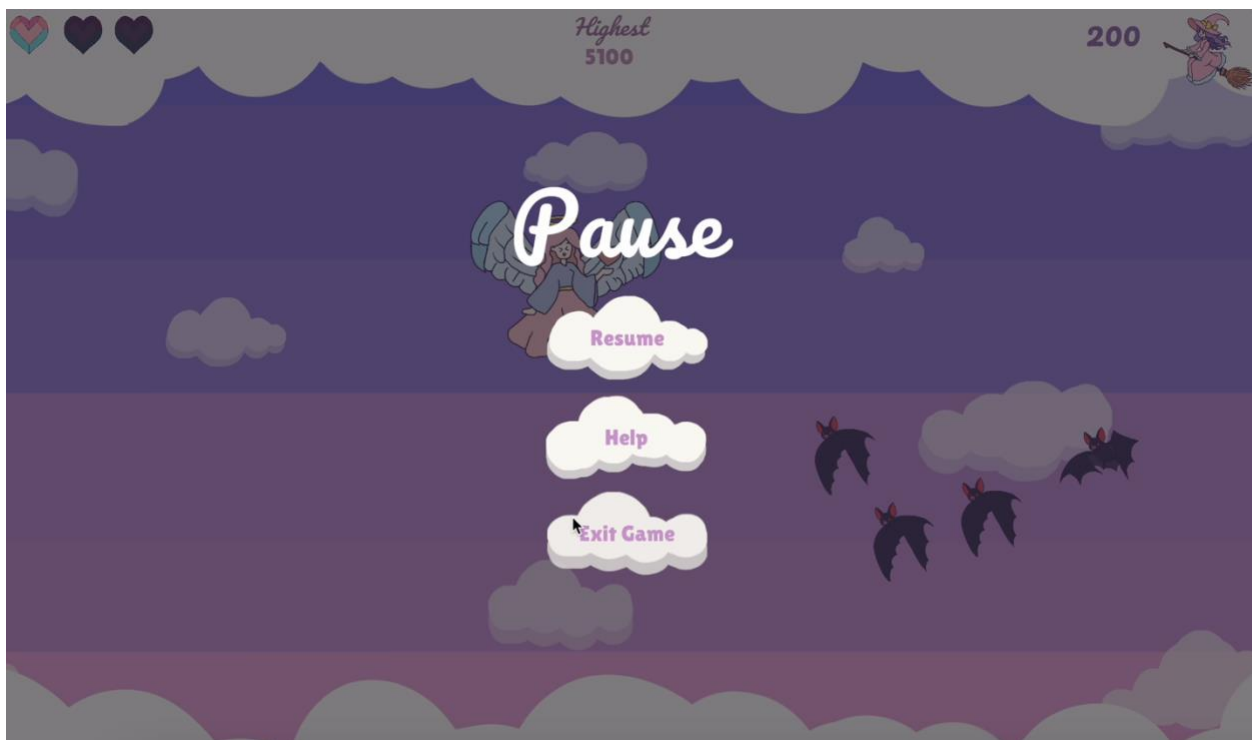
In-Game 2: Turning a Witch to a Good Witch



Game over Screen: Making the highest score



Pause Screen: by pressing ESC



References

External Game Assets References

All code and artwork in Angel & Witches were created by me. The only external assets that were used were game music and sound effects. All external assets used were free.

Music Reference

Background Music:

Adventure Gaming Music Suite

Unity Asset Store.

<https://assetstore.unity.com/packages/audio/music/orchestral/adventure-gaming-music-suite-300438>

Sound effects Reference

Shooting Sound Effect:

Shooting Sound

Unity Asset Store.

<https://assetstore.unity.com/packages/audio/sound-fx/shooting-sound-177096>

Additional Sound Effects from Pixabay:

Sound Effect by Universfield,

https://pixabay.com/users/universfield-28281460/?utm_source=link-attribution&utm_medium=referral&utm_campaign=music&utm_content=144751

Sound Effect by Rusu Gabriel,

https://pixabay.com/users/skyscraper_seven-43500092/?utm_source=link-attribution&utm_medium=referral&utm_campaign=music&utm_content=203597

"Game Shot Light Gun Sound",

<https://pixabay.com/sound-effects/game-shot-light-gun-81813/>

Sound Effect by freesound_community

https://pixabay.com/users/freesound_community-46691455/?utm_source=link-attribution&utm_medium=referral&utm_campaign=music&utm_content=81813

Mood Board Image Reference

Ethereal Angel Wings Wallpaper

Wave studio. 2023. Ethereal Angel Wings Wallpaper [Digital Art]. Wave studio.
<https://www.livewallpapers.com/fantasy-angel-wallpaper-wallpapers?page=29>

Wallpaper Aesthetic Purple

Fondos de pantalla. 2025. Wallpaper Aesthetic Purple.
https://www.facebook.com/100063704735472/photos/1158322599634554/?_rdr

Poison Witch

Jayu Im. 2023. Poison Witch [Digital Art]. Webtoon Guide.
<https://www.webtoonguide.com/en/board/totalreview/17985>

Night Strars

Mumu Guan. 2022. Xing Yue [Digital Art]. Gracg.
<https://www.gracg.com/v/5bb56c4f7e60a1b9aa48642c494e0f07>

Miracles Sky

Wenyi Geng. 2023. Your dream story project [Digital Art]. Wenyi Geng.
<https://www.wenyigeng.com/work-avenue#/you-dream-story-project/>

Star Catchers

Vicki Tsai. 2020. Star Catchers [Digital Art]. Pinterest. <https://pin.it/5yiCybAvR>

Glitter Sky Wallpaper

Lee Coin. 2022. Wallpaper [Digital Art]. Pinterest. <https://pin.it/4bKg0nqMT>

Little Witch

Elizai Beth. (n.d.). Little Witch [Digital Art]. Pinterest. <https://pin.it/6FN6NN8n2>