



Figure 1: Game Logo

Wandering Memories

D3.1 Game Design Document

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05/11/2024 Version 1.0

02/12/2024 Version 2.0

05/01/2025 Version 3.0

Overview of Concept

The game will be a top-down 2D twin-stick shooter, for PC/Browser and Android. The main objective being recollecting good memories while confronting the bad memories, all the while exploring the character's own past throughout the story.

This goes hand in hand with the subject of “Nostalgia: Echoes of a Lost Time” in which the good memories are mixed with the bad ones, which makes us question if we see the past with rose-tinted glasses or if the past was even the same as we remember it. Nevertheless, it reminds us that we can't go back to how things were, which makes us cherish them all the more.

Key features:

- Top-Down Shooter.
- Abstract weapons and enemy types.
- Levels with a dreamlike quality to them.
- Advanced: Multiplatform being for PC/Browser and Android.

Description

The game is a Top-Down 2D twin stick shooter for teenagers and adults, with heavy emphasis on story driven gameplay.

The story happens when a man in his mid-twenties by the name of Hinata Mori. Disillusioned with how his life turned out and longing for a sense of comfort, he remembers how everything was better in the past. With this in mind, he decides to take a leave of absence and return to his hometown of Osaka during the crescent part of July, joyous to see how everything is faring since he left there several years ago.

However, once he arrives, he senses a foreboding change brewing in this town. Apparently, industrialization has taken hold in his precious little hometown. This feeling is exacerbated by the fact that most of the people he knew and loved were not to be seen. While he goes into the town, it slowly starts to creep up on him the fact that certain things weren't exactly as he remembered. While pondering upon these realizations, the once irking sensation now erupts into full blown turmoil, leaving him distraught, in a quest for answers.

Does his memory serve him right? Is the past not as bright as he once thought? Or are his emotions and nostalgic thoughts clouding his perception of the past? This is what the player and protagonist must uncover throughout the game, with the player's job being to ease them and not lose track of all the blessings in life and prevent the good memories from being overshadowed by the bad ones. But also, uncovering deep and once forgotten revelations of Hinata's past from when he was a meek and pushed-around kid.

The visual style is a pixel-art style inspired by the animations of Studio Ghibli. The game will have a tile system for matching together different scenery in an easier manner.

Once the game starts, the player character can run in all directions. As he does, he remembers past moments and times associated with the locations in the level space. This recollection brings back feelings, both good and bad, which are now seen from the present point of view. The negative emotions appear as enemies in-game. Positive emotions are objective pickups, needed to beat some levels. Good memories are items that the player captures, and the enemies try to steal. Bad memories are towers that must be destroyed to release their grip on the main character.

In this metaphorical battle, the player can shoot to defend himself, with the possibility of doing a more powerful charged shot. To avoid attacks the character can dodge and do melee attacks to knockback enemies in case he gets cornered. All these actions constitute an attempt by the main character to maintain a positive outlook regarding his past and present circumstances.

The gameplay loop involves fighting back against the bad emotions (enemies) using a variety of weapons (which are based on psychology techniques) with the main objectives changing depending on the level. The first level asks the player to pick up all good emotions scattered across the room, before he gets overrun. The second requires the player to eradicate the enemy threat. In the third level, the player must capture the good memories and take them to the drop zone. The fourth level requires the player to protect the good memories from being "stolen". Finally, in the fifth level, the player must get to the root of the problem, by neutralizing the bad memories gone rogue. Each level is introduced with a text advancing the story and explaining the level objective, with a fitting ending in the aftermath of the game.

As the player progresses throughout the levels, he becomes more experienced with handling his feelings, but the enemies also get stronger due to the increasingly tragic revelations brought upon by the story. This manages to offset the player's upgrades, essentially balancing the gameplay experience.

The game has two features that ease difficulty. First off, you have in the options menu the possibility to toggle invulnerability on or off. Secondly, the upgrade experience is two-pronged, meaning that your two options are:

Beating the levels – Whenever you beat a new level, you gain an upgrade ball.

Passage of time – these points are earned by playing the game for any amount of time, meaning that with each second that passes, these increase. They are considered cheats since the game isn't balanced around these, so you score less at the end of the game, not to mention that it's not the intended way to play the game.

Player Metrics

Max Health: 100

Speed: 3

Weapons Metrics

Weapon	Button(s)	Damage	Rate of Fire
1 – Soul Searching Stead (automatic)	Left-Click	1.25	0.25 seconds
2 – Pragmatic Prong (melee)	Right-Click	2.5	0.50 seconds
3 – Righteous Fortitude (charged)	Both Left and Right	5	1.00 seconds

Enemy Metrics

Enemy	Health	Damage	Movement Speed	Acceleration
1 - Cloudee	10	1	1	1
2 - Kaze	5	15	4	4

Cloudee

Blue sad clouds, representing mournful melancholic feelings. These sobbing mobs attempt to overwhelm the player with a suffocating shroud of sadness.

- Basic movement
- Inflicts melee damage in point-black range



Figure 2: First enemy type (Cloudee)

Kaze

A fast-moving bomb with an angry expression plastered on its face. They are kamikaze by nature, being usually volatile mobs that run up to the player quickly with dynamite-like contact abilities:

- Fast movement with slow turning speed
- Explodes on contact with the player



Figure 3: Second enemy type (Kaze)

Endless Mode

In Endless Mode, the gameplay objective is for the player to survive an endless horde of enemies and to obtain the maximum number of points by neutralizing negative feelings (i.e.: defeating enemies).

Enemies appear from both the left and right sides of the screen, until the player is defeated.

In the first prototype of the game, this is currently the mode available to play as a way to show the gameplay and to test the different mechanics.



Figure 4: Endless Mode Arena

Story Mode

There are 5 gameplay levels in story mode broken up by intermission done through the use of text. The scenes are passed when the player collects the item that spawns on the last wave of enemies letting the player make the choice of acquiring more points or passing on to the next level.



Figure 5: Special object to pass to another level



Figure 6: Level 1



Figure 7: Level 2

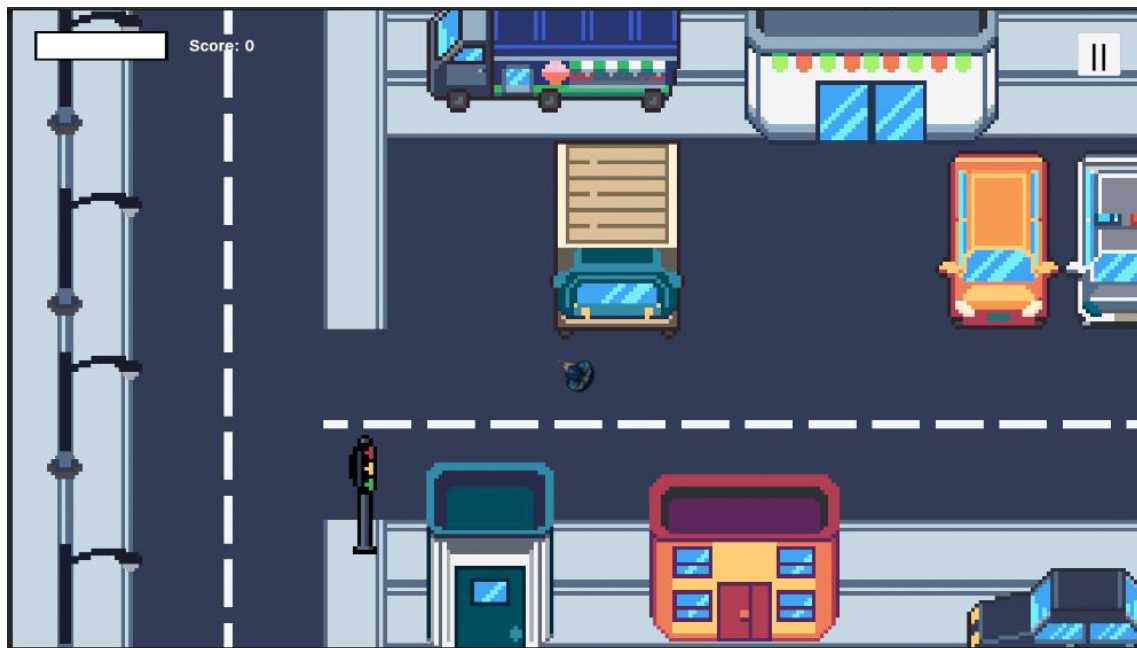


Figure 8: Level 3



Figure 9: Level 4



Figure 10: Level 5

Technical Specification

The game engine used to develop the game will be Unity, with the target platforms being PC/Browser and Android. In case we want to distribute the game, we could use Steam for the PC version, Itch.io for the Browser version and Google Play Store for the Android version. Following are the minimum and recommended hardware requirements, for PC and Android:

PC Hardware Requirements

Minimum:

Intel Celeron G530

DX9 (shader model 2.0)

Recommended:

Ivy Bridge based Pentiums

DX10 shader model 4.0

Android Hardware Requirements

Minimum:

Android 8.0 Oreo

Kirin 910T (Quad-Core 1.8 GH Cortex A9 28nm)

Recommended:

Android 9.0 Pie

Snapdragon 808 Quad-Core 2.3GH Krait 400

Concept art

For the art of the game, we wanted a pixel-art style, inspired by Studio Ghibli Animations, particularly its towns. The following is a sample of the inspiration:



Figure 11: Inspiration example 1



Figure 12: Inspiration example 2

With this in mind, we searched the Asset Store for assets that complied with these characteristics. We decided to use the Pixel Art Top Down – Basic asset by Cainos, which can be found here <https://assetstore.unity.com/packages/2d/environments/pixel-art-top-down-basic-187605>. As indicated in its overview, it consists in “a set of 32x32 basic sprites and tilesets for top-down games”. The following images are the provided examples in its Asset Store page:

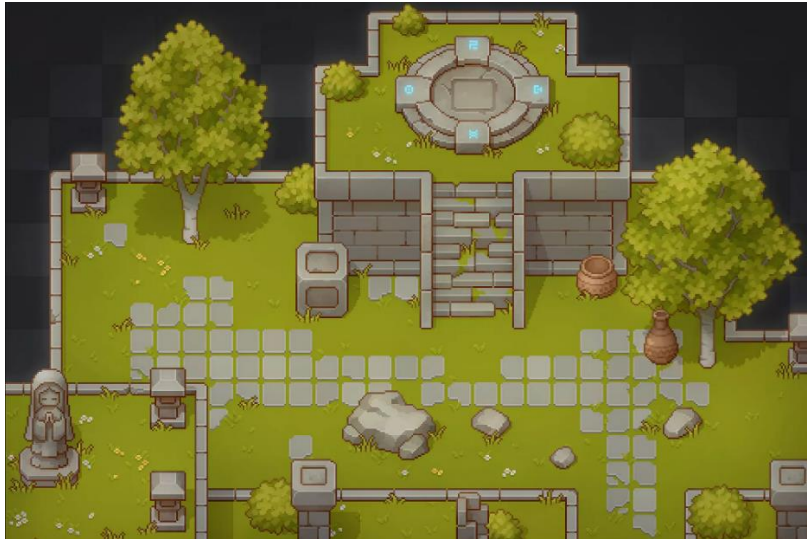


Figure 13: Asset example 1

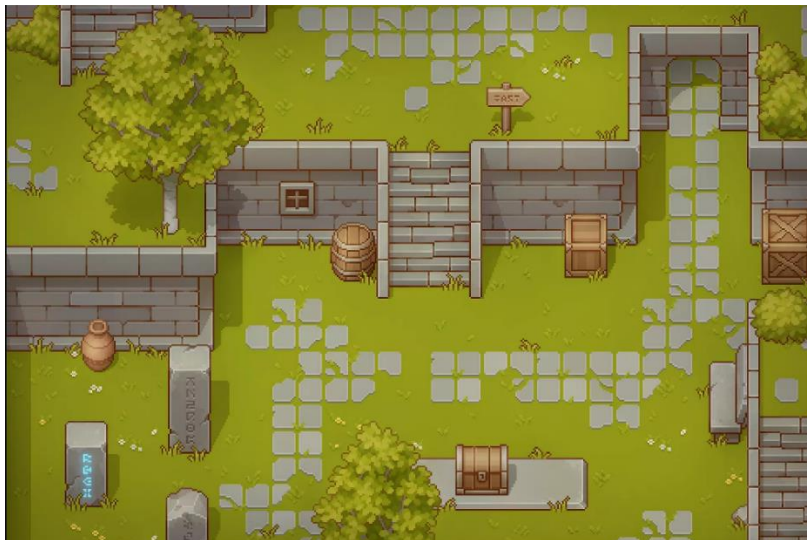


Figure 14: Asset example 2

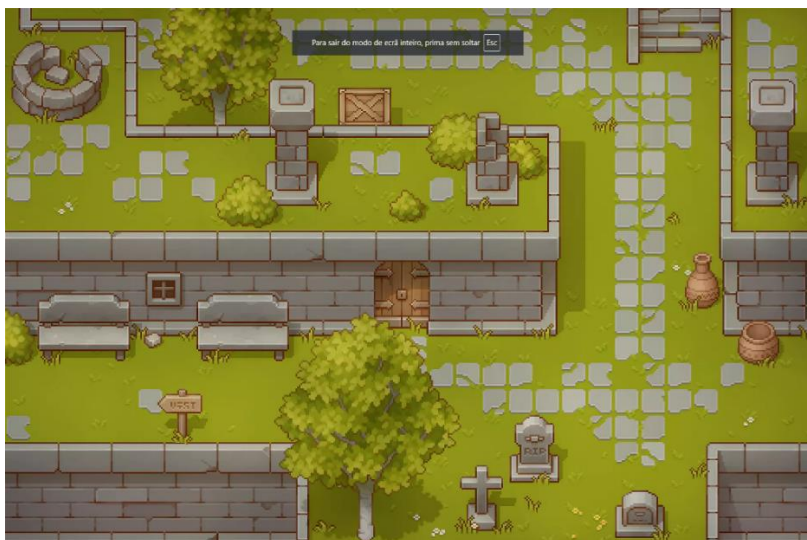


Figure 15: Asset example 3

Another asset used was City Pack - Top Down - Pixel Art. Below is an example of its usage.



Figure 16: City asset example

Game Music and Audio Effects

Player hit sound

Player low health warning

Player dying sound

Player weapon 1 sound effect

Player weapon 2 sound effect

Player weapon 3 sound effect

Mob 1 attack sound effect

Mob 1 hit sound effect

Mob 1 dying sound

Mob 2 attack sound effect

Mob 2 hit sound effect

Mob 2 dying sound

Main menu music

Main menu rollover sound effect

Main menu click sound effect

Main menu return sound effect

In-game music

Between levels music

Credits music

User Interface

Main Menu:

Story Mode – Level Select.

Endless Mode – Fight through an endless horde of enemies and obtain the highest score.

Options – volume knob for master volume, SFX and music; use gamepad option; screen resolution; black and white mode; invulnerability cheat.

Quit Game

In-Game Menu:

Pause Menu – retry level; quit to main menu; in addition to access to the same options menu available from the main menu.

End Level Menu – Scoreboard and Repeat or Continue options.

Game Controls

Controls for PC

“WASD” (movement)

Space bar (dodge roll)

mouse buttons (attacks)

Controls for Android

Horizontally held game with two virtual joysticks

Left half of the screen - spawn movement joystick wherever pressed

Right half of the screen - spawn aiming and firing joystick wherever pressed

Schedule and Deliverables

05/11/2024	D1.1. Scope document (version 1.0)
02/12/2024	D2.1. Game Design Document (version 0.x)
	D2.2. First Prototype
05/01/2025	D3.1. Game Design Document (version 1.0)
	D3.1. Final prototype

User Stories / Functional and non-functional requirements

First Prototype – PC/Browser

- Movement: (WASD scheme);
- Mouse Aiming;
- Weapon 1 - Soul Searching Stead: automatic-fire action (left click);
- First enemy type (cloudee);
- Endless mode;
- Menu splash screen/graphic design;
- Logo design.

First Prototype - Android

- Joystick Movement;
- Joystick Aiming;
- Weapon 1- Soul Searching Stead: automatic-fire action (while aiming with the right joystick);
- First enemy type (cloudee);
- Endless mode;
- Menu splash screen / graphic design;
- Logo design.

Final Prototype – PC/Browser

- Automatic reloading when clip is emptied;
- Weapon 2 – Righteous Fortitude: melee attack (right click - sweeping short range attack that causes knockback);
- Weapon 3 – Pragmatic Prong: charged-shot (both mouse buttons held down);
- Roll: spacebar, faster movement; i-frames (move possesses cooldown because of it);
- Health pickups;
- 5 Campaign levels (with different objectives and biomes);
- Upgrades (ball system, earned by beating the level – one ball earned at a time). 2 Upgrade balls can be applied to each weapon. Weapon 1 starts with one ball;
- Cheat upgrades (direct increment on the stats, points gained based on seconds passed in-game);
- Second enemy type (Kaze);
- Game Soundtrack/SFX.

Final Prototype – Android

- Automatic reloading when clip is emptied;
- Weapon 2 – Righteous Fortitude: (melee weapon that attacks whenever the enemy is in point-blank range);
- Weapon 3 – Pragmatic Prong: Charged shot (automatically fired at fixed intervals);
- Roll: faster movement; i-frames (move possesses cooldown because of it) in this version, roll is only triggered when attacked, while in point blank range to an enemy;
- Health pickups;
- 5 Campaign levels (with different objectives and biomes);
- Upgrades (ball system, earned by beating the level – one ball earned at a time). 2 Upgrade balls can be applied to each weapon. Weapon 1 starts with one ball;
- Cheat upgrades (direct increment on the stats, points gained based on seconds passed in-game);
- Second enemy type (Kaze);
- Game Soundtrack/SFX.

Improvements

Despite the group's best efforts, there were parts of the project that were left on the cutting room floor due to time constraints.

The first feature missing is the dodge roll, in which it proved quite difficult to implement due to the constraints but also the sprite work along with the coding required caused conflict and was one of the features that had to be abandoned.

The second feature that also had to be cut was the upgrade system with the intention of the player progression dictating the abilities of the character.

Another feature that wasn't implemented due to the change of direction were the different objectives for each level in which each level should have different objectives to complete, but this idea was later replaced by simulating more closely the top-down shooter mechanics of the older games. Due to this change, it also contributed to the removal of the reloading mechanic as it impeded the game flow more than it contributed to it.

Another feature that was not implemented was the Health Pickup system despite still having code for it due to the relative ease of the game, making the difficulty of the game tend to the player, especially with the quick restarts made for each level and the levels not being too long.

Also, some parts of the story were left more on the implicit side rather than shown, told or even cut due to the making of the story part.

References

Studio Ghibli was the arrived tone of the game, both visually, and storytelling alike.

Debated ideas ranged from top-down twin stick shooter genre (from the likes of Binding of Isaac, Hotline Miami, roguelites in the genre, dungeon crawlers etc.)

Cainos Pixel Art Top Down – Basic (<https://assetstore.unity.com/packages/2d/environments/pixel-art-top-down-basic-187605>)

<https://assetstore.unity.com/packages/2d/textures-materials/city-pack-top-down-pixel-art-195403>