Realm of You

GAME DESIGN DOCUMENT

TEAM H

Table of contents

1 Game overview

Concept

Realm of You is an interactive story that follows the journey of Athy, a 10-year-old girl, who explores an imaginary world, filled with her heart's desires, in a journey to save her best friend, Dooley. Along the way, she has to face many mental challenges that attempt to keep her from returning home by destroying her notion of reality. Most of these tests come from the ever-present narrator, the guardian of Realm of You, who does not wish to let her go.

Features

Realm Of You includes the following features:

- Interactive story with various dialogue options
- 3 basic story finals + slight variations depending on the dialogue lines chosen throughout the game
- 2 2D minigames
- 2 3D minigames
- 1 exploration world
- Prologue and Ending scenes
- 1 Final Battle
- 10 interactable items
- Save and Load system
- 1 type of physical enemy, Dream Eaters
- 1 playable character
- 6 diary pages that trigger the next levels
- Antagonist storyteller

Genre

Adventure, Interactive story.

Target Audience

Realm Of You is targeted for players from any gender and over the age of 12.

2 Gameplay

Objectives

The main objective of Ream Of You is to explore the imaginary world looking for clues and items to help Athy find her friend, Dooley, without losing her reality notion.

Her sense of reality diminishes when the player makes a bad choice in the dialogues, collides with the Dream Eaters (enemies) or loses a minigame.

The narrative of the game is mainly advanced by Dooley's diary pages that are lost in the exploratory world. Once Athy finds one of them, a new challenge is unlocked, that makes her closer to finding her friend.

All 4 minigames have different mechanics and goals that will be explained in detail in the following topics of this document.

Basic Mechanics

The player controls Athy in a 3rd person view.

Player Movement

The player can move, with constant velocity and in any direction throughout the world, using the W A S D or arrows keys, and jump using the SPACE key.

Interaction with items

The player can interact with all the items around the world that have an "eye" levitating on top of them. To interact with the elements of the world, he/she can click on the object or use the Z key.

Interaction with the dialogue

When it comes to dialogue interaction, there is an arrow on which the player has to click to proceed in the story. Instead of clicking, he/she can also use the Z key to continue the dialogue.

When Athy has to make a decision, the player will have to click on the desired option.

3 Story

The player materializes as Athy, the protagonist of the story, in her journey through Realm of You. The narrative is inspired by the story of "Alice in Wonderland", by Lewis Carrol. In the following topics, there is a more specific description of the game's narrative.

Prologue

The game starts with Athy who is at the window, waiting for her best friend who promised to come meet her and play. Once he arrives, Athy notices he's behaving weirdly, staring at the ground in her garden. She quickly goes to meet him, however, once she arrives at the garden, Dooley is nowhere to be found. She notices there's a hole on the ground and she tries to look closer when she falls into the hole.

Realm of You

Beginning

Once Athy wakes up, after falling into the hole, she discovers herself to be in a world she had never seen before, and is interpelled by a voice that explains to her where she is. This voice belongs to the narrator and guardian of Realm of You, the world where Athy fell to. He explains to her that Realm of You is a world where wishes come true. Athy reaches the conclusion that Dooley must have also fallen in this world, since he disappeared all of a sudden right next to the hole, and asks the narrator for help finding him. And so begins her journey in search of her best friend.

The journey starts with the explanation of the bar on the top-left of the screen, which is a measure of Athy's nightmares, or so the narrator says. In truth, it quantifies Athy's notion of reality. As she travels through the world, she comes across many instances where she loses bits of her reality. Losing all reality might lead her to forget all about the real world and to stay in Realm of You forever, with no memories left of her life prior to falling into the world.

Diary Pages

During the exploration of Realm of You, the story line is organized in a series of six diary pages, that Athy finds while searching for Dooley. These pages belong to Dooley and expose some of the problems that he faces in his daily life. Such include episodes of:

- **Bullying**: where Dooley's classmates act violent towards him and call him mean names such as Dully, emphasizing that he is dull.
- **Domestic Violence**: where Dooley's dad acts violently towards Dooley's mom, destroying things she buys or receives as gifts and even hitting her with a bottle of beer. Also included in this category, there is a story about Dooley's cat that has gone missing, at least in Dooley's eyes. In this diary page, it is implied that the cat was actually run over by Dooley's dad, as can be noted by the red collar, which was originally white, that Dooley found next to his dad's car. At last, there is also a story which unveils how afraid Dooley is from his brother finding his diary, which could lead to him showing it to his dad, who could beat him up for it.

In addition to these more negative diary pages, there is also a page that shows how much Dooley loves books and finds comfort in them, which serves as clue, indicating that he might be inside a library and that the player should follow the trail of books found in the scene.

The final page is about Athy, and how, in Dooley's eyes, she's his saviour and the sole reason for his happiness, despite all the problems he has to face daily.

Minigames

Some of the diary pages are accompanied by puzzles and challenges that allow the game to progress.

The concept of each minigame is as follows:
- **Minigame 1**: Athy finds pictures next to the page of Dooley's diary that speaks about bullying. She quickly realizes that some of these pictures are negative and bring suffering to Dooley, such as pictures that represent the bullying he has suffered. In order to help Dooley forget his bad memories, Athy decides to destroy the bad pictures.
- **Minigame 2**: After Athy reads about Dooley's dad throwing away some important objects that belong to Dooley and his mom, such as his glasses and her red dress, she wishes to find these objects to return to Dooley and make him happy. As such, she wishes for these objects to appear in Realm of You. However, she makes a mistake and thinks about these objects being in the trash, which brings not only the objects to the imaginary world, but also a bunch of trash bins. Now, Athy needs to search through the trash bins to find the objects she seeks, before the narrator sends the trash bins away for smelling bad.
- **Minigame 3**: After reading about how Dooley wishes he had the last photo of his missing cat, which was ripped and thrown away, Athy decides to put the picture back together to give to Dooley and make him happy.
- **Minigame 4**: Athy needs to find the key to Dooley's diary, which will open the library's door where he is, which is found inside his favorite book, that he normally keeps on top of his book shelf. As such, Athy makes the wish to bring the book shelf to Realm of You and has to climb it in order to find the book and the key inside it.

Objects

In Realm of You, Athy comes across various objects which affect how the narrative goes in the final scene. These include:

- **Hair ribbon**: a gift from Dooley that Athy had previously lost. Depending on the choices made by the player, this ribbon influences the final scene, unlocking more decision points and discussion in the final battle, in the topic regarding friends, where the narrator tries to convince Dooley that Athy is not a good friend.

- **Dooley and mom's photo**: a photo of Dooley and his mom smiling. Similarly to the previous object, this object also unlocks more dialogues and decision points in the final battle, in the topic about Dooley's family issues, where the narrator tries to convince him that his mother would be happier if he didn't go back to reality.

- **Teddy bear**: plushie that used to belong to Athy. This object is nostalgic to Athy, helping her remember reality while she holds on to it.

- **Voodoo Doll**: doll found in the scene. The narrator tries to convince Athy that this doll shows the deepest desires of the person who pierces it, and that she should pierce it in order to find Dooley. If the player decides to pierce the doll, the decision point that follows has repercussions in the final scene and unlocking different dialogues. In this object, the narrator asks whether or not Athy really cares about her best friend Doodley. If the answer is "Yes", throughout the remaining part of the exploration part of the game, Athy's best friend's name is changed from Dooley to Doodley, and, in the final scene, Dooley gets offended by being called Doodley and thinks Athy is making fun of him. If the answer is "No", Athy tells the narrator that her best friend's name is Dooley, not Doodley, and the previous scenario where she calls him Doodley on their reencounter does not happen.

- **Rose**: flower found in the scene, that has thorns that prick Athy's fingers if she decides to pick it up.

- **Candy**: pile of candies found in the scene, that Athy can pick up but that does not have any repercussion in the narrative.

- **Backpack**: object that arrives at Realm of You together with Athy. This object is actually a tutorial and the game does not start until it is picked up by Athy. If she does pick up the backpack, the number of slots in the inventory increases to 9 slots.

Final Scene

In the final scene, Athy finds her best friend, who has forgotten all about her and the real world. As such, Athy needs to find a way to remind him of the reality and convince him to come back with her. In order to do so, the player can show the last diary page that has been found, where Dooley expresses how important the best friend relationship between him and Athy is to him, and that when Athy is by his side, he finds the world to be beautiful, despite all his problems. This page is packed with Dooley's feelings for Athy and makes Dooley remember both his best friend and the real world.

After Dooley remembers, he and Athy are ready to go back to reality but they are stopped by the narrator, who does not understand why they'd want to go back to all the problems that exist in the real world when they can be happy and problem-free in Realm of You. And thus starts his attempt to convince Dooley to stay. Athy and the narrator get into a discussion where the narrator brings up all the problems that Dooley has to face when he goes back to the real world and tries to convince him that the real world would be better off without him and that he is powerless in there. During this discussion, Athy has to think of solutions to each of the problems that the narrator brings up, in order to convince her best friend to go back with her. Some parts of the battle are different, depending on the objects that Athy has picked up during the exploration of the world.

Ending

The game has multiple endings, which are consequences of the actions and choices made by the player, which personifies as Athy. There are three basic endings:

- Athy loses all her sense of reality during the exploration phase of Realm of You, which results in her forgetting all about reality and staying in this imaginary world forever.
- Athy convinces Dooley to go back with her, which also has multiple scenarios, according to the choices made during the final discussion with the narrator. For example, if Athy decides to have a talk with Dooley's bullies, when they go back to reality, Dooley gets beaten up really badly by his bullies, who got mad at him because of Athy. The bullies end up being expelled and ultimately Dooley ends up happy, however, the fight with the bullies could have been avoided in other scenarios. There is only one completely happy ending.
- Dooley decides to stay, making Athy go back to reality by herself. In this scenario, Athy, at first, thinks everything has been a dream and desperately searches for Dooley, only to find out that not only is he nowhere to be found, but also no one remembers him, not even his own mother. The scenario ultimately ends with Athy forgetting about Dooley.

Characters

Athy

Athy is the 10 year old protagonist of Realm of You, who has never faced hardships in her life and thinks that life is a sea of roses. As the protagonist, during the main exploration scene, she might lose notion of reality according to the choices the player makes when interacting with objects and with other activities such as losing some minigames.

Dooley

Dooley is Athy's best friend, and her polar opposite. He's quiet and always with his head stuck in a book. Unbeknownst to Athy, Dooley has suffered through a lot of hardships that range from family to his school and that follow him everywhere. His only comforts are the existence of books and Athy. In the narrative, Dooley is the central figure in the final battle, where he has an indecision bar that shows how willingly he is to go back to reality.

Mr. Guardian

Mr. Guardian is the narrator and the guardian of Realm of You, who accompanies Athy in her journey, always attempting to make her lose reality, so that she gets stuck in Realm of You. Mr. Guardian is, this way, the main antagonist of the game, which becomes more and more apparent to the player as the dialogues progress, but unbeknownst to Athy.

Dream Eaters

The dream eaters are kind beings who wander around Realm of You stealing people's nightmares, or so the narrator tells Athy. In truth, these beings materialize as nightmares after stealing the notion of reality of the people who travel through Realm of You. They assume the form of a football, a nightmare of Dooley's. This way, the dream eaters are enemies.

4 Levels Design

Main Level

The main level represents the key aspect of the game. Within this level the player has the ability to explore this imaginary land while encountering several interactable objects and diary pages. The player must also beware of the enemies who may spawn near him. This is the only level from where the player is able to save his progress and exit the game.

Objectives

Main Objectives

- Explore the world
- Interact with diary pages

Secondary Objectives

- Interact with pickable items

Look and Feel

Environment

The decoration on this level is mainly constituted of two types of trees whose colours vary from a pink/purple tone to a more orange one. These trees help delimit the area to which the player must explore, even though he is free to roam to any extreme of the world. One of the tree types is only used in a specific area, as described below. Some other decorations include small rocks and lego pieces. This level has five distinct subareas, also marked in the image below:

- **The central one** (1), where the player spawns, with green grass and a few decoration items;
- **The north west one** (2), easily recognized by a pink/purple field surrounded by trees;
- **The north east one** (3), where the library door can be found. This space is decorated with a type of trees only shown here. Leading to this area, the player can find a path of books that symbolise the proximity to the library door and consequently to the library level;
- **The south west one** (4), where lies a sunflower field;
- **And the south east one** (5), with a simpler and darker decoration, composed only of a few rocks.

This level, unlike the prologue initial scene, is a 3D scenery. The change of environment is a primary effort to emphasize the vivacity of the Realm of You when comparing it with reality.
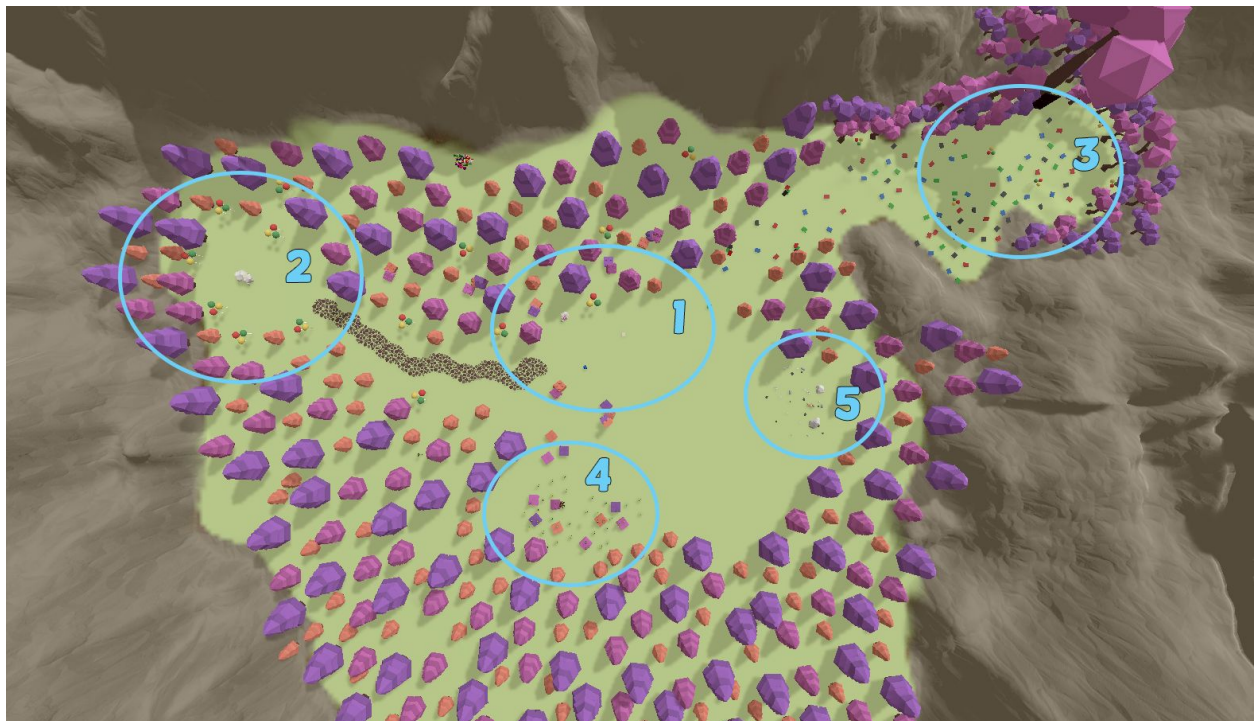
Pacing

This level has a very slow pacing, as the player is free to explore the world for as long as he wishes. This is strongly emphasised by the smooth background music.

Gameplay style

The player can walk freely and the camera will smoothly follow him from a high, sideways angle. As the player delves into the world, the items which he interacts with and chooses to pick up are stored in his inventory. Let it be noted that upon picking up the first diary page, the player obtains the diary. Said inventory is carried between levels, even though he is not always shown on screen. To move between levels, the player needs to always find a specific diary page first.

As the player enters the world for the very first time, serving as a tutorial, he is forced to interact with the backpack, as to teach him about the world's main mechanic.

The optional objects are scattered throughout the different map areas (these areas are signalized in the map above):
- The backpack, hair ribbon and Dooley and mom's photo are in area 1;
- The teddy bear in area 4, which causes the player to gain reality points if picked up;
- The voodoo doll in area 5;
- The rose on the path in between areas 2 and 4;
- And the candy on the path in between areas 1 and 2.

Minigame 1

This minigame is the first big challenge presented to the player, as he tries to eliminate the bad memories of Dooley's life by destroying the negative images he mentions in his diary.

Objectives

Main Objectives

- Select the bad memories

Look and Feel

Environment

This level is one of the two 2D minigames. As such, the environment has no depth, as it would in a 3D scenery. The game background is an illustration of the main level and it creates a nice contrast with the images appearing on screen.

Pacing

As the player must complete this level within 15 seconds, the pacing is quite fast. As more and more images appear on screen, the player must jungle promptness with good aim in order to achieve a good score.

Gameplay style

All images appear in a random position on screen and may be either a bad or a good memory, also selected randomly. This happens every second. As they appear, each bad memory decreases the score in 10 points while the good memories increase the score by 5 points. This mechanic was implemented to punish the player if he does not click on any pictures.

The player must use the mouse left click to select images. A bad memory selection will be rewarded with 10 points whereas a good memory selection will be penalized by losing 20 points. When returning to the main level, if the player scored less than zero points, he loses 25 reality points.

Minigame 2

This level comes following Dooley's family as we keep discovering more about it and how his father mistreated them. The diary page that illustrates this situation mentions how his father threw away his glasses and his mother's dress. The player must then find these objects by searching the trash bins that fill this level.

Objectives

Main Objectives

- Find mom's red dress
- Find Dooley's glasses

Look and Feel

Environment

In contrast with the first minigame, this second one is a 3D scene closer to the main exploration environment. The trash bins, which hide the pickable items, are displayed in an arched fashion, surrounded by trees, equal to the ones present in the main scene. Each bin is then set on top of a small path of rocks, that form a circular shape. This level does not have any grass, just a plain green field.

Pacing

Like most minigames, the player must find these objects within a time limit of 15 seconds. The high paced music and the ultimate objective, contribute to a sense of urgency while playing this game.

Gameplay style

The camera angle, unlike the main level, has a back view of the player and does not follow him around. The player must press each bin's front platform by standing on them, which will open the trash bin and reveal its content.

At the end of the game if the player does not find any objects, he loses 26 reality points. However, if he only finds one of the objects, he loses 13 reality points. If he finds both objects he does not lose any points.

Minigame 3

Following the previous minigame, the player will find a diary page speaking of a destroyed cat picture, which the player will then try to bring back together.

Objectives

Main Objectives

- Complete the puzzle

Look and Feel

Environment

This level, being 2D like the first minigame, has a very simple layout composed of a themed darken background, the panel that will hold the completed puzzle and a pile of mixed puzzle pieces.

Pacing

As this game has no time limit, the pacing itself is naturally slower. The music also aids the player to feel rather relaxed and just focus on completing the puzzle.

Gameplay style

The player must click and drag each piece to its location. If the piece is placed almost perfectly onto its correct place, the piece will snap into position.

Minigame 4

As the player reaches the area with books scattered on the ground, he attempts to unlock the door, but the key will only be found on completing this minigame, a mini platformer. Whilst going through the level, the player must also avoid the books that are thrown towards him.

Objectives

Main Objectives

- Get to the key

Secondary Objectives

- Avoid the flying books

Look and Feel

Environment

This level has a very mystic atmosphere, emphasised by the fog present in the whole level. This environment attempts to serve as a bridge between the happy and bright ambient from the main level and the darker and more intense ambient from the final battle. To this end, in the initial platform, the player is surrounded by several legos, similar to the ones in the main level. The remaining platforms, however, resemble the library's bookshelves, with their dark wooden colour.

Pacing

Even though moving from platform to platform may incite a faster pace, the player does not have a time restriction. Furthermore, if the player falls over, and by consequence, loses the game, he has the ability to start over. All of these conditions result in a pacing that will vary based on the player's own playstyles.

Gameplay style

The camera angle, like in the second minigame, has a back view of the player. However, in this minigame the camera will follow the player around.

The player needs to jump to reach each platform. While in the air, the player cannot change the direction of the jump, so in order to reach a platform from an angle, the player needs to gain some impulse in that direction. Upon reaching the final platform, the player interacts with the key as a normal object.

Final Battle

The whole game culminates in this level. After completing the previous minigame, the player enters the library and must be able to first talk to Dooley and make him remember reality. Secondly, the player needs to defeat the narrator as he attempts to trap Athy and Dooley in this world. The final battle dialogues are initiated by interacting with the poles scattered around the library after Dooley remembers reality.

Objectives

Main Objectives

- Defeat the narrator and convince Dooley to return to reality

Look and Feel

Environment

This level has a very different environment when compared to the rest of the game. It has dark shelves forming a big maze and the outside is surrounded with a pinkish fog. The music changes depending on Dooley's indecision bar, reflecting on the player's actions through this level.

Pacing

The whole environment foments a tense and stressful scenario. As the player roams around the level to find the correct poles to interact with, the pacing is defined by the player's eagerness to complete the level.

Gameplay style

Interaction with Dooley is done normally as it was throughout the game. In order to make him remember reality, the player must open the diary from his inventory and use a certain page. Each page will have a button Use only in this scenario.

As the narrator begins reminding us of all the problems that Dooley will face if he goes back, 4 poles appear on the level and as we interact with them, they glow and a certain discussion starts. The poles must be interacted in a certain order. If the player interacts with a pole out of order, it will not glow.

5 Game Engine

Choice of Game engine

To develop this game we choose the **Unity** Game engine. The main reasons for this selection are:

- **Platform support**: this engine provides a variety of supported platforms which allowed us to produce a game for multiple devices.
- **Documentation**: all the features, functions and methods are really well documented and easy to understand.
- **Graphics**: the graphics are supported by the game engine which eases the game development.
- **Experience**: our knowledge of Unity facilitates the development of a functional solution.

Use of Physics

Collision detection

To detect the intersection of game objects, we used the colliders provided by the Unity engine. These colliders are applied in the majority of the 3D designed objects with which the player interacts.

To improve the rendering velocity, we decided to not include colliders in some of the non-accessible objects such as the tree leaves and the small grounded rocks.

Another situation in which we use colliders is regarding pickable objects, in which we added spherical triggers to establish a field surrounding the objects, so that whenever the

player enters the field and gets closer to these objects, an eye appears, as a visual way to inform the possibility of an interaction.

Character controller

The movement of the player was implemented with the help of a character controller. This component uses a capsule collider which allows the player to collide with the different game objects.

Game logic and artificial intelligence

With regards to the artificial intelligence used in this project, we can highlight the following:

- **Dooley movement at the library scene**: the character automatically follows the player's movement. When the player moves away more than five game units, Dooley follows a path calculated using AI to approach Athy.
- **Soccer balls in main scene (Enemies)**: At the spawn time, the ball calculates its trajectory based on the player's position. After that, the ball starts its movement towards the player.
- **Flying books in minigame 4**: Similarly to the enemies in the main scene, each book calculates its trajectory based on the player's position upon its spawn.

Game Flow

This gameplay diagram is a simplified chart which represents the very basic idea of the game flow. The game flow is controlled by a state machine which can be in two main modes:

- **Exploration**: the player can move and explore the world. In this mode, there are states for each one of the minigames, for the main scene and for the final battle.
- **Dialogue**: the player has his position fixed while reading the dialogues.
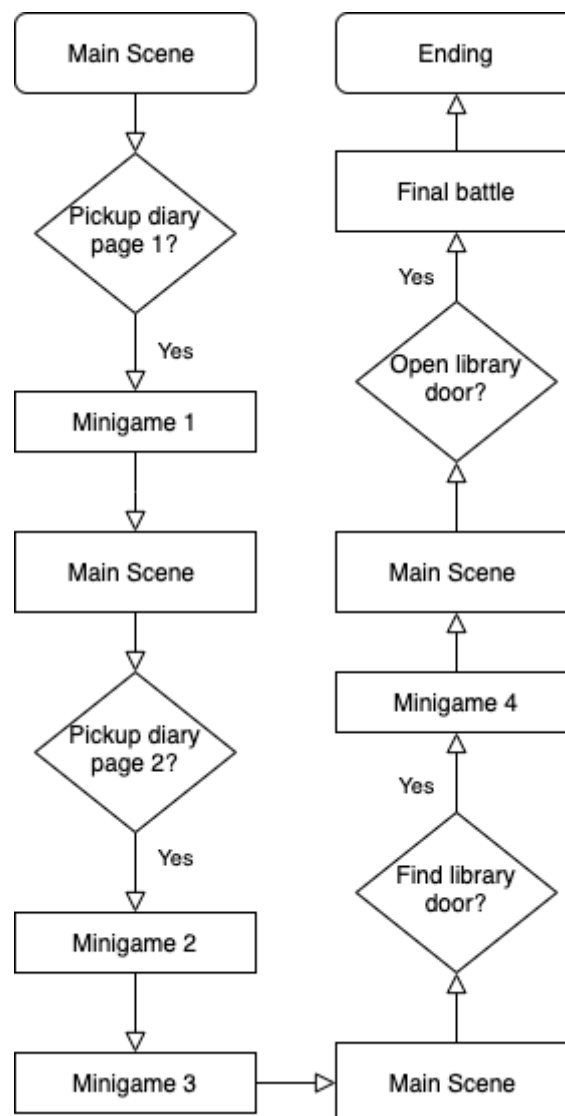
Delivery platform

Hardware/software requirements for running the game on a system

Delivery platform:
- PC windows
- PC macOS

Minimum hardware requirements:
- Dual core processor
- 4GB RAM
- Hard drive 350MB free space
- Graphics card

Software requirements:
- Windows or macOS 64-bit

6 Game Interface

Main menu

The main menu has a simple and intuitive interface. Here, the player can find options such as:

- **Start a new game**: the player just needs to press the new game button located at the centre of the screen;
- **Exit the game**: by pressing the exit button shown on the bottom of the screen;
- **Continue the previous initiated game**: if the player has already begun playing the game, a new option will appear above the new game button. It allows the player to continue the previously started game.

How to play
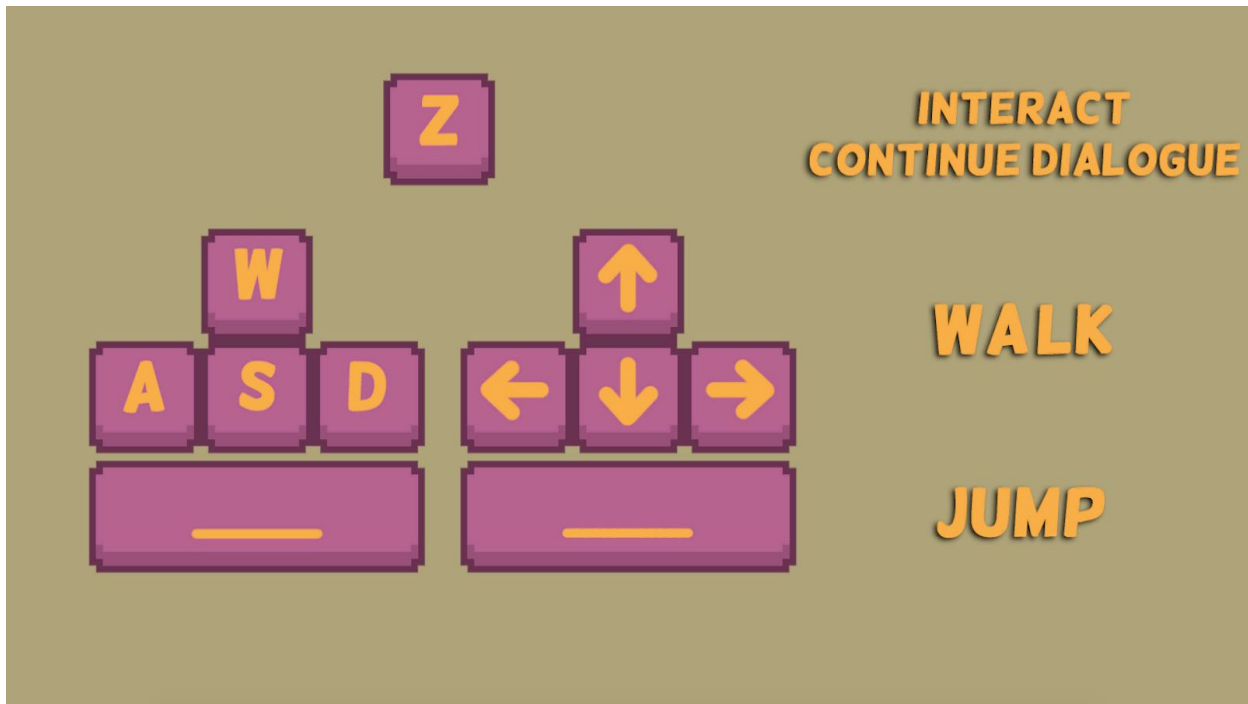
When the application starts, the commands are shown to the player. Here we can understand that:

- **Z key**: allows the player to interact with the game objects and to progress in the dialogue;
- **W A S D** or **arrows keys**: permits the movement of the player through the world;
- **Space key**: allows the player to jump.

Game scene

Someone: Oh, she's awake! Hello, little one!

At this stage, the player is allowed to explore the world. Here we can see the:

- **Reality bar**: At the top left corner, in which we can observe Athy's current reality level (in this game this bar represents our health);
- **Map** (top right corner of the screen): helps the player to localize himself in the world;
- **Inventory**: allows the player to store items. To interact with them, the player just needs to press the filled slots;
- **Character dialogs**: at the bottom of the screen, the player can follow the story tale.

Pause Menu
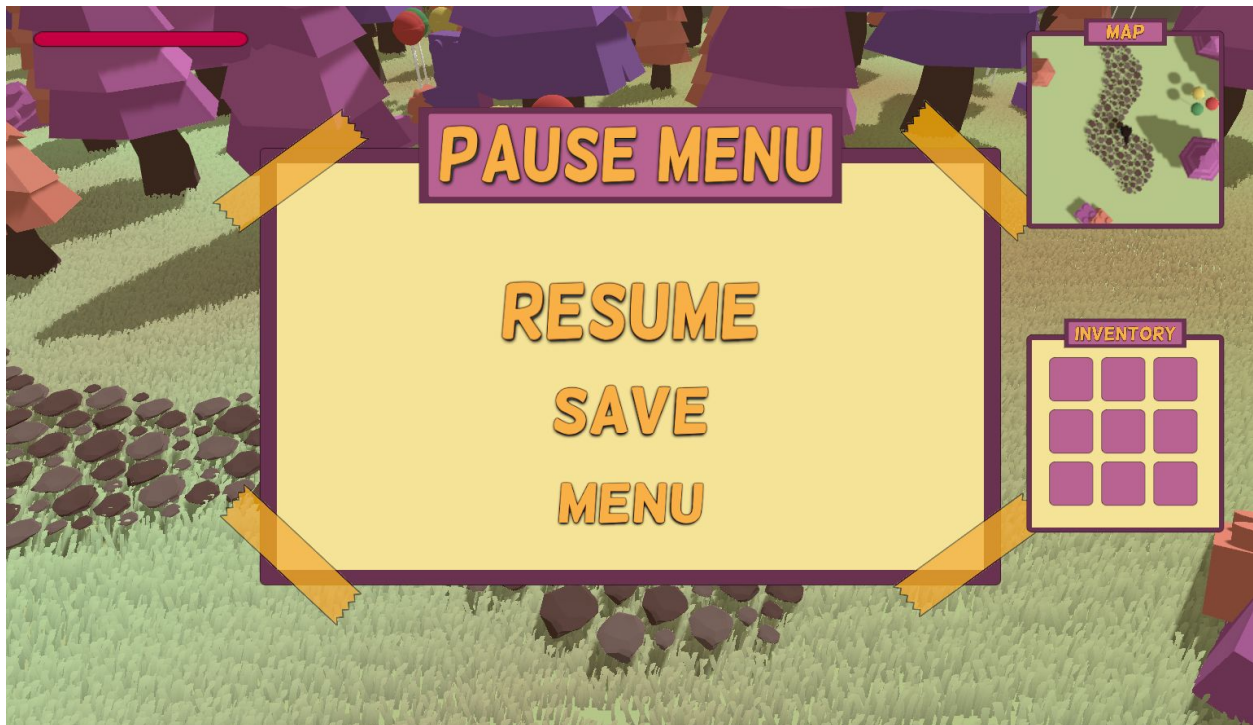
By pressing the Escape button, the player is redirected to the pause menu. In this screen, the player can follow the options:

- **Resume**: Return to the scene;
- **Save**: Store all the information regarding the actual state of the game to be able to continue later;
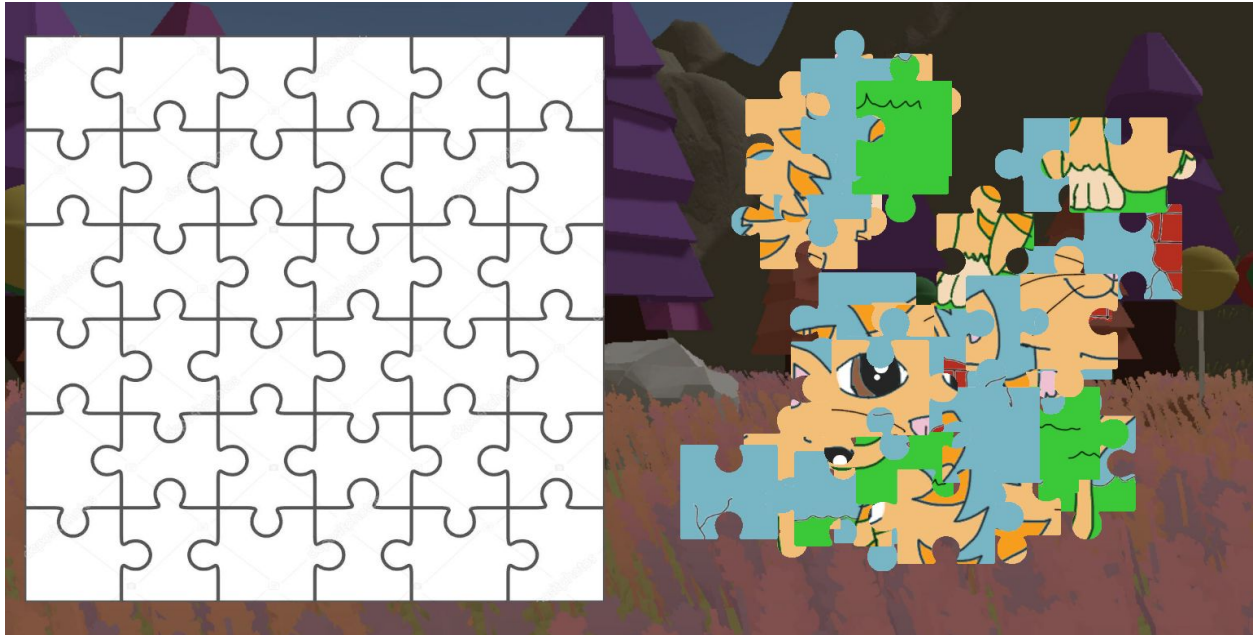- **Menu**: Redirects the player to the main menu screen.

Minigame 1

Minigame 2

In the minigames 1 and 2, we take a simple approach regarding UI elements. At the top right corner is presented a timer to control the time spent during the minigame.

# Minigame 3

Minigame 4

# Final Battle

7 Concept Art

The concept art is based on a "low-poly" and cartoon-looking style. The design features strong and vivid colors and simple shapes, as well as lesser detailed textures.

The game's Main Level has a colorful and dream-like visual style, featuring sunflowers, toys and giant lollipops. The objective is to present a world populated with the main character's desires and wishes.
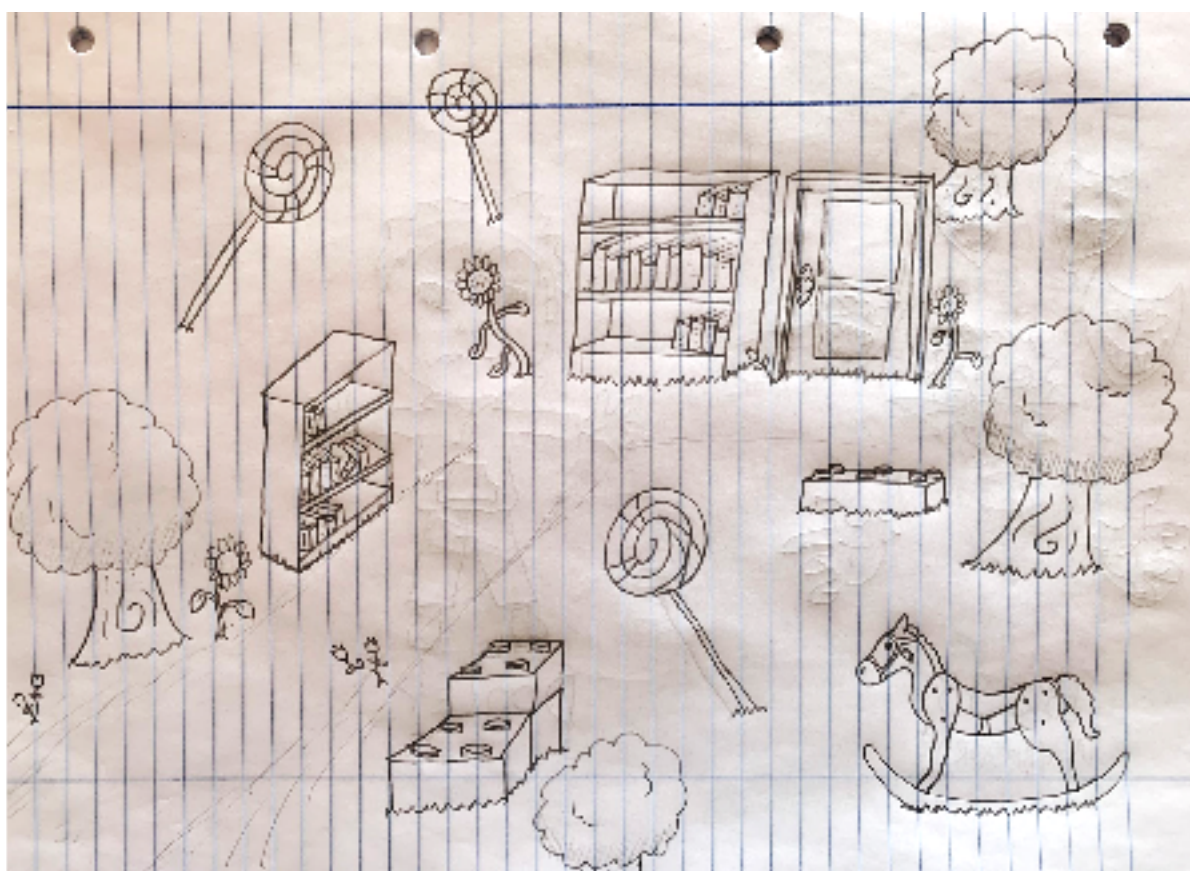
Characters

The characters' design is similarly based on a cartoon-looking style, with exaggerated head sizes in relation to the bodies and simple facial expressions. Both of the characters' overall designs are also based on their respective personalities: Athy's clothes, hairstyle and facial expression represent her happy and playful personality, while Dooley's less colorful clothes and "neutral-looking" expression show his introspection and represent the hardships he has to endure.
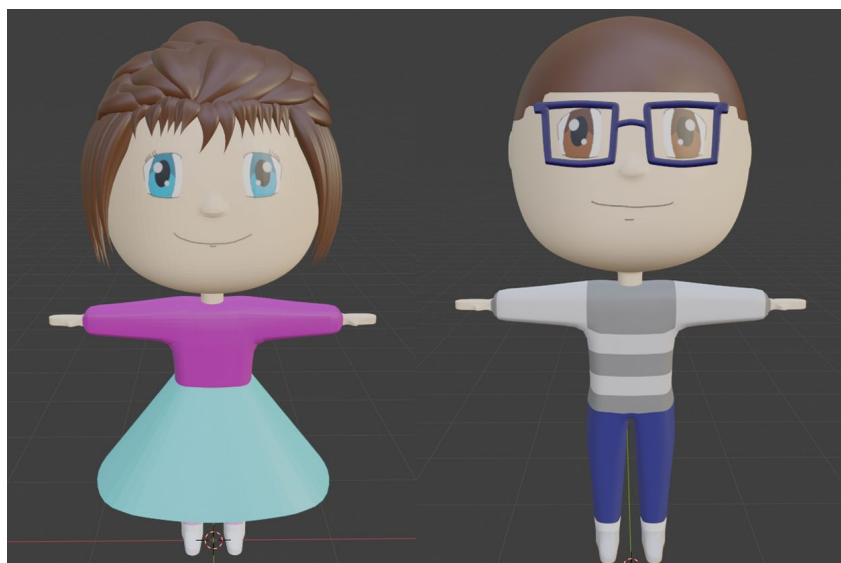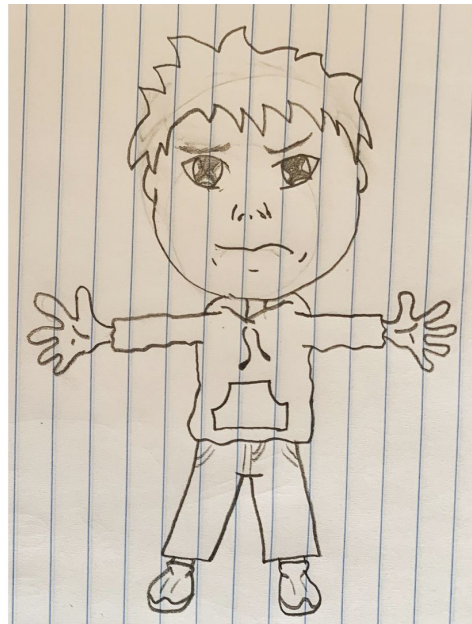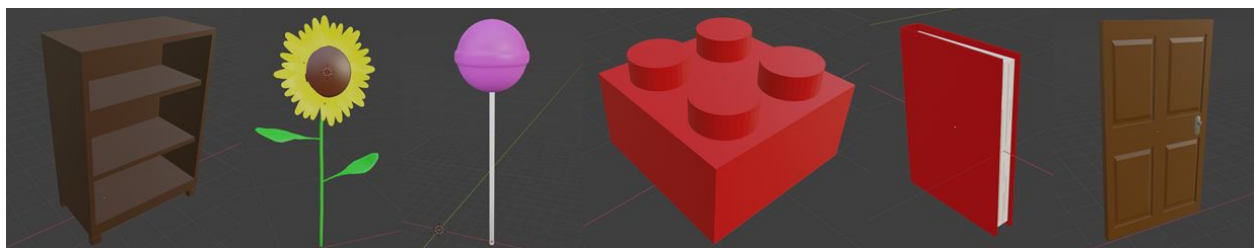
Objects

The objects in the game were designed to be easily identifiable while having a visual style consistent with the rest of the assets, and, as such, they feature simple shapes, less detailed textures and strong colors.
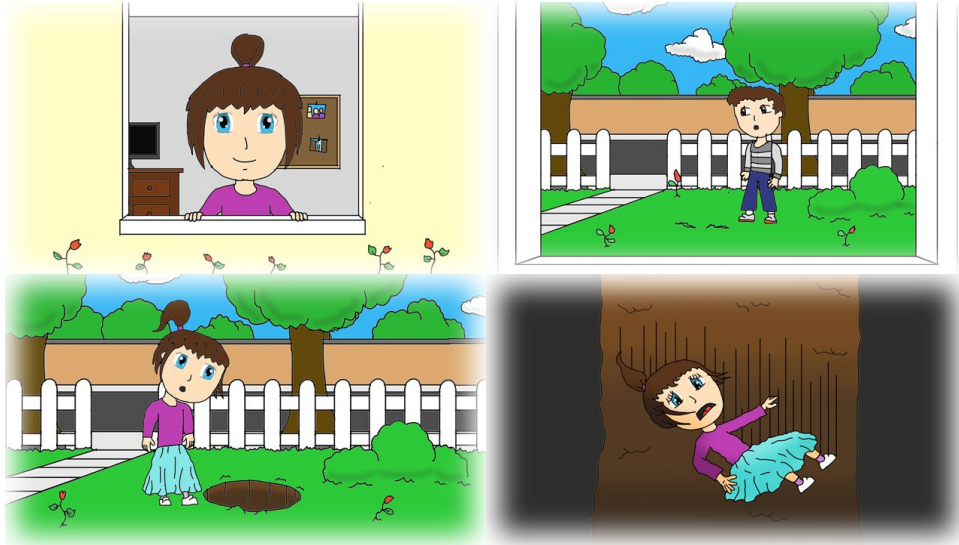

Objects which the player can interact with in the game

Objects in the background

Images

The visual style of the images made for the prologue and the minigames are based on a "cute" and cartoonish design, and feature strong and vivid colors, in line with the overall aesthetic of the game.

Prologue images

Minigame images

8 Sounds

As all games, sound played an important role in emphasizing each different environment and momentum present in this game. The sound team used the FMOD workflow ([link](#)) to create the sounds presented below.

Ambient musics

- Game ambient theme
- Minigame 1 theme
- Minigame 2 theme
- Minigame 3 theme
- Minigame 4 theme
- Final battle theme

Sound effects

- Item interaction
- Item added to inventory
- Open diary
- Falling scream
- Dream eater approximation
- Normal footsteps
- Grass footsteps
- Getting hit scream
- Losing screen UI
- Winning screen UI

- Wrong picture selected (Minigame 1)
- Right picture selected (Minigame 1)
- Item found (Minigame 2)
- Puzzle piece in the right place (Minigame 3)
- Right pole selection (Final Battle)
- Wrong pole selection (Final Battle)

9 Project Plan

Project Goal

The goal of the project was to conceptualize and develop a 3D game. As such, we decided to create an interactive story where actions and decisions made by the player would affect the narrative and the ending of the story, and that would raise awareness to issues in society that are still a problem in the current days. After this decision, the goals of the game became:

- To create an enriching experience for the player who would want to play the game again to find out the different endings that he could reach with different decisions and actions.
- To raise awareness about problems in society, such as bullying and domestic violence, and make the player think about what he could do if he had knowledge of these incidents happening, in a real life scenario.

Project Scope

With the goals of the project defined, we created the concept defined in the Story section of this document, where a little girl falls into an imaginary world in search for her best friend, and that is accompanied by a narrator. We also conceptualized the minigames and the respective mechanics, that would make the game more interesting for the player.

During the development of the project, the scope suffered a few changes when compared to the initial scope:

- **Addition of enemies**: we added the dream eaters during the development phase, in order to add a bit more of a challenge, that would force the player to move away from the dream eaters when they go towards Athy.

- **Minigame 2**: it was initially a 2D game, which we changed to 3D by using trash bins where the objects were hidden. This change also meant adding more dialogue to the narrative, to explain the new concept of the game and to make it cohesive with the story line.
- **Minigame 4**: initially, the concept for the 4th minigame was vague and we still didn't know exactly how its mechanics would work. In the end, we decided to go for platforms, which represent shelves, that Athy needed to jump over to reach the book in the final platform. This approach also meant adding more dialogues to make the story cohesive.
- **Final Battle**: initially we wanted to add a physical component to the battle, other than it being just a discussion, to make it more captivating for the player, however we did not define anything specific during the planning phase of the game. During the game's development, we decided to add poles that would unlock the different parts of the battle and that the player had to interact with, to add a bit more of a physical side to this battle.

We decided to implement the game in Unity 3D.

Competitive Analysis

While defining and planning the game, we researched other games with similar concepts that we could use as a source of inspiration, both from the point of view of the narrative as the game mechanics. The first two options are the ones closest to our game idea. However, the remaining ones also have certain aspects in common with our concept that we feel deserved to be mentioned.
- **The Stanley Parable**: Interactive 3D story with a narrator but different mechanics.
- **Little Misfortune**: Interactive 2D story with similar game mechanics but with a different concept and where the main character's goal differs from the player's: the player is motivated by making choices that will keep Misfortune alive, while

Misfortune is motivated by finding the Eternal Happiness to give to her mom. It also contains a narrator that guides Misfortune in her journey.
- **Gone Home**: Tackles society's issues as well but with different mechanics.
- **Life is Strange**: Graphical adventure that also features exploration and an interactive story but with a less open-world approach.
- **What Remains of Edith Finch**: Graphical adventure with a powerful story that also features a narrator.

Scheduling

When it comes to scheduling, we didn't have specific deadlines for the development of each part of the game. All of us would work on the game as we had the time for it, which worked quite well since all the members were interested in making this game a success. We developed the game incrementally, starting with the basic mechanics and enriching the games in terms of graphics and improving the mechanics.

We did have deadlines to fulfill when it came to deliveries, such as the Game Concept Document, which was submitted on April 9th. The final deadline for submitting the game and the source code happened on June 18th and was followed by a presentation of the game on the next day.

Test Plan

When it comes to testing the game, we performed manual tests throughout the whole development process, everytime we changed the code. In order to make it easier to test the game without having to go through all dialogues, we had a testing mode, during the development of the game, which allowed the player to move even when there were dialogues happening and that disabled the dialogues that would start automatically when a scene changed. We also had short keys and dummy buttons to pass minigames

automatically, which allowed us to test the game flow without having to lose much time on minigames.

In the end of the development process, we tested the game extensively, to make sure that all the scenarios and endings we created were reachable and to make sure that the game worked without bugs. We started building the project two weeks prior to the game delivery, in order to test the built version thoroughly.

Communication and Coordination Mechanisms

We have used the following tools, throughout the development process:
- **Trello**: a board where we defined and distributed tasks between the members of the team. We kept this board updated throughout the whole development process and we used it to make sure that there were no two people working on the same tasks and to remind us of what we still had to do in the game.
- **Discord**: communication tool used so that the team could keep in touch and make decisions together, since it was not possible to do it in person during the semester. We created a channel in discord where we also kept in touch with the 3D modeller and the sound designers.
- **Unity Collab**: tool which allows version control, specific for Unity. We used this tool to work concurrently on the game.
- **Google Docs**: for developing the documentation of the game and to coordinate the development of the 3D assets, with the 3D modeller, and of the sounds, with the sound designers.

Resources

In terms of human resources, our team was composed by 4 developers, 2 sound designers and 1 3D modeller:

- Helena Montenegro - Story Lead, developer.
- Luísa Freire - Lead Programmer.
- Juliana Marques - Story Lead, developer.
- Tiago Rodrigues - Lead Programmer.
- Fábio Azevedo - Sound Designer.
- Bruno Oliveira - Sound Designer.
- Lucas Rocha - 3D Modeller.

Constraints and Challenges

There were two major constraints to the project:

- **Time**: The time we had to develop the game was limited.
- **Lack of personal meetings**: The COVID-19 pandemic resulted in a situation where we could not meet personally to discuss the game. This hindered communication a bit. However, the team kept in contact throughout the whole development process, using Discord.

A challenge that we had to face during the development of the game was our inexperience in developing a game, both from a technological point of view, since neither of us had ever made a 3D game, and from the point of view of the narrative.

10 3rd Party Assets/Tools used

External Assets

- **The Illustrated Nature - Sample Pack (link)**: for the world grass. From the Unity asset store.

External Tools

- **Yarn Spinner (link)**: for the narrator and the main character's lines.
- **DOTween (link)**: for small jiggly animations on the poles.

Group Identification

Developers

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3D Modeller

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