

Game Design Document: Shrinking Problem

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Game Introduction

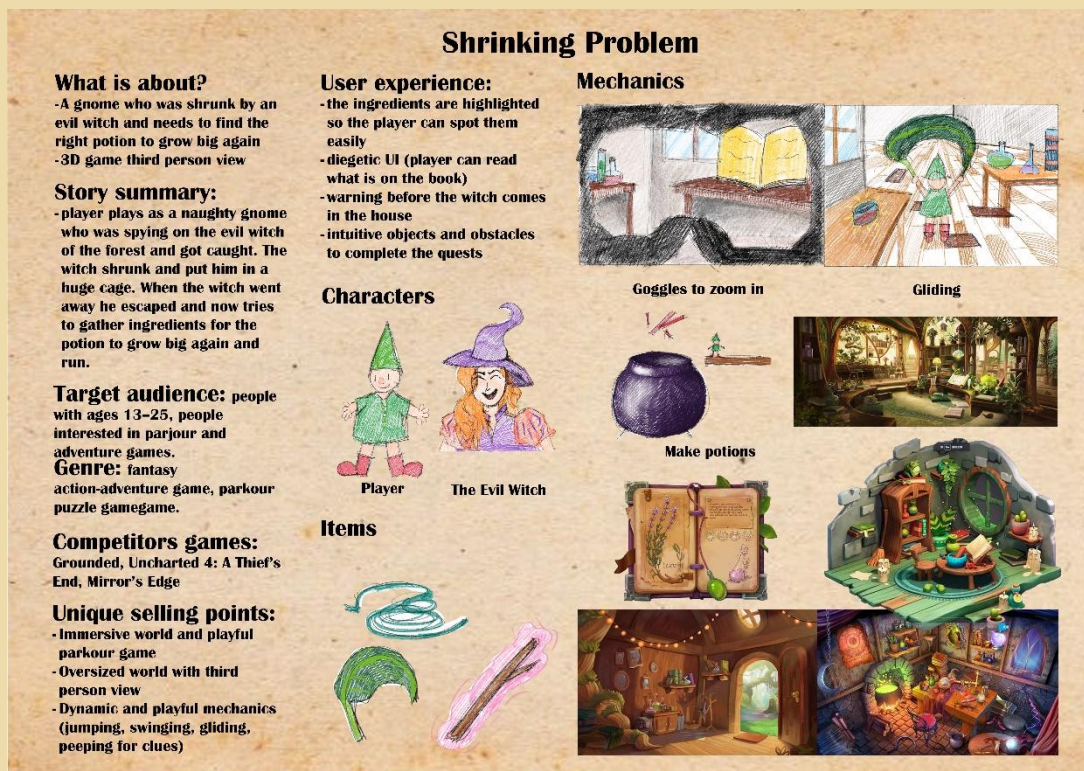
Game concept

- Player is a gnome who got shrunk to the size of an ant by the evil witch and needs to find the right ingredients to grow big again.
- The graybox is made in Fortnite Creative

Genre

- Fantasy, adventure, parkour, puzzle game
- Third person view

One pager



Inspiration for concept

- I was inspired by the concept of being downsized from Grounded (survival game where player fights with giant bugs in a garden) and looking for items in special areas of the garden.
- For the puzzles and magic wand, I was inspired by the game Lego Harry Potter for when a player solves puzzles by moving objects, so they can jump on top of them to go forward or obtain an object
- I was inspired by the swinging mechanic from Uncharted 4, when the player aims at a point, clicks the button and swings
- The gliding mechanic was an inspiration from Fortnite as I used to be passionate about the game when I was younger and thought it would be an efficient tool for shortcuts in the game.

Choice using Fortnite Creative

- Since this was an individual and a 9-week project, I decided to work efficiently and use existing complex mechanics for the graybox. I was familiar with Fortnite and the mechanics of the player controller (gliding, jumping,

swinging similar to my concept). Moreover, having the features of Fortnite Creative offered me easy tools to use to develop my game such as gameplay devices (checkpoints, item spawners, triggers and buttons, win condition, HUD implementation), tools (glider, grappler, sniper for peeping) as well as props and modular structures for creating the platforms and other objects in a graybox manner.

External goals

- Improve level design skills
- Create an engaging, challenging and fun game
- Improve game design skills (make a good and detailed GDD, flowchart, one pager etc.)
- Make future games on Fortnite based on the game design skills learnt from the Focus Track

Internal goals

- Find all the ingredients to grow big
- Figure out easy and intuitive how to get to the ingredients
- Do the puzzles with enjoyment and fun
- Be challenged by the obstacles
- Use the abilities (jumping, moving objects, gliding, swinging) to get past the obstacles

Target audience

- Teenagers (13-18) and young adults (18-25)
- People interested in parkour and action-adventure games
- Based on the Gamer Motivation Model by Quantic Foundry, the target audience for my game are people interested in facing different challenges and practicing different skills (Mastery), exploring new environments (Discovery), experimenting with the mechanics (Discovery) and role-playing as a fictional character, the gnome (Fantasy).



Unique Selling Points

- Immersive world and playful parkour game
- Oversized world with third person view

- Dynamic and playful mechanics (jumping, swinging, gliding, peeping for clues, moving items)

Desired experience

- Mechanics: Player understands clearly how to use the mechanics and where.
- Dynamics: Player uses the mechanics to find the ingredients and to get to different platforms, player can spot the book easy, player understands the riddles on the book.
- Aesthetics: Player feels curious to explore the map, player feels excitement and challenged by performing the level, player doesn't feel frustrated.

Game objective

The player has to gather all 5 ingredients scattered across the witch's hut found in different locations with different challenges. They have to use the jumping, moving objects, gliding, swinging mechanics to overcome obstacles. In the game there is a recipe book that presents clues for the ingredients in a form of riddles. The player has to find their way through the oversized room.

Structure

- Semi-linear game in which the player has to jump, swing with the rope, glide, move objects in order to find and bring the ingredients to the cauldron. Player has the freedom to explore the level layout and create their own path to the objectives, usually choosing between 2-3 methods. If the player is not getting the ingredients, then they can't finish the game.

Player

- Player as Receiver
- The story is shown before the start of the game. Player will have an introduction to the universe of the game so they can understand why they start from a certain point. The player should feel engaged with the level and story.

Story type

- Interactive fully traditional story, in which the story stays the same no matter how many times the game is played. The player can interact with objects by moving them with the wand, but doesn't affect the story.

Story

- In a magic forest there was a village of gnomes and had a dislike on the witch because sometimes the witch was stealing their crops to make potions. One day, a gnome (played by the player) was spying on the witch and was caught by her. As punishment she shrunk him with a magic potion and put him in a cage.
- In the game, the gnome (player) escapes very easily because the cage was too big for him. The gnome spots a book for magic potions and tries to find the potion to make him big again. Player needs to find all 5 ingredients located in different areas of the hut.
- After the gnome gets all the ingredients, they go back to the cauldron and mix the ingredients. A cutscene is shown where the gnome comes back to the

original size, jumps over a window from the witch's hut and runs away to the village.

Narrative

- In the beginning of the gameplay, there is a cutscene that integrates the player into the context and universe of the game. The ending is also shown as a cutscene to return the player to the real world.
 - o The first cutscene: The witch is shown stealing crops from the gnome village and everyone gets mad, then the scene switches to the gnome spying from a bush on the witch and get distracted by a bee. After he gets rid of it, the witch catches him and pours a potion over him. He wakes up small in a cage and saw the witch leaving. The last part of the cutscene is when he looks at the recipe book.
 - o The ending cutscene: The gnome is carrying all the ingredients then jumps in the cauldron. A big explosion appears, and the gnome is big again. He jumps over a window and goes to the village.
- Player takes the role of a character, a gnome.
- While exploring the levels, player can notice how messy the witch is by the presence of overcrowded tables and the variety of ingredients and potions shows how creative and knowledgeable the witch is.

Dramatic progression

Plot

- Player finds out about the story of the game from the cutscenes and gets familiarized with their situation as well as amplifying their motivation to play the game and finish the main objective.

Pacing

- The player plays the game at their own pace. The amount of fails doesn't influence the gameplay.
- After the player finds one of the ingredients nothing will change.
- When the player performs the dynamic mechanics (jumping, swinging, gliding) they need to be steady as they are moving faster than usual and need to be careful to get to the next platform.

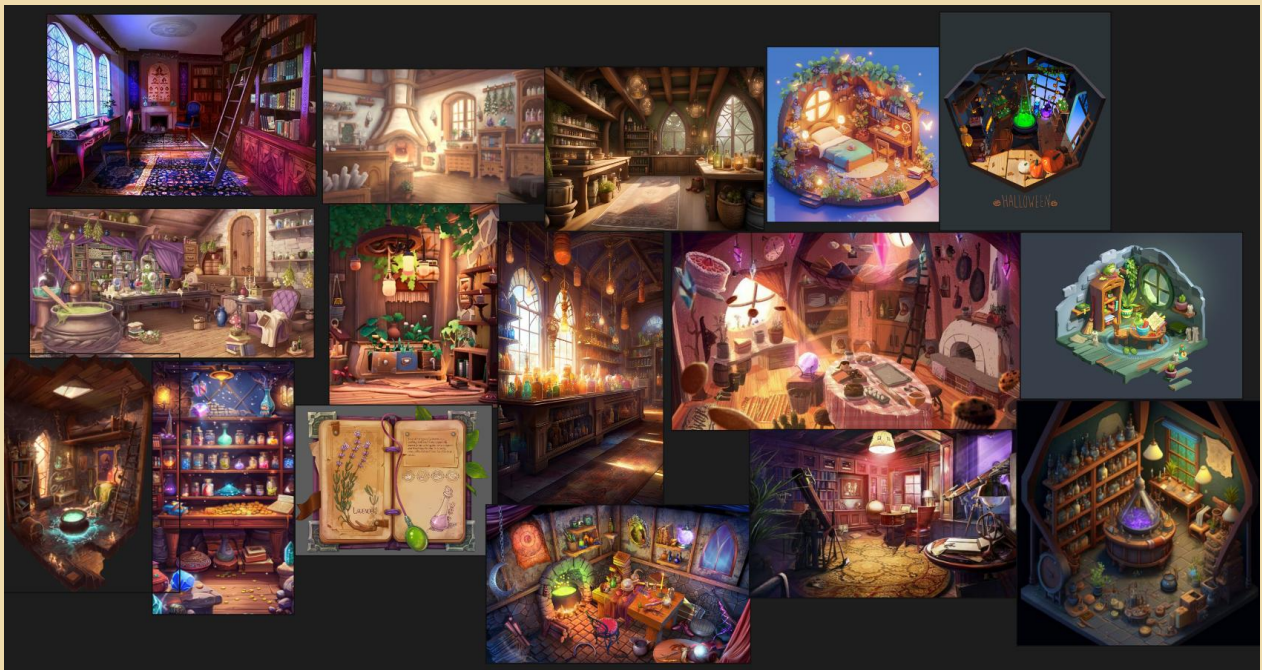
Visual experience

Theme and Mood

- Fantasy world, adventure and type of story from a book.
- Warm-cold, dark and bright colors to create excitement and encourage exploration
- Semi- realistic stylized textures for assets



Moodboard



Form

- The introduction and ending of the story are shown in 2D cutscenes.
- The introduction is to introduce and immerse the player into the story and universe. The introduction will also show the main objective of the player.
- The ending will send the player back to the real world.
- The main content of the game (the gameplay) is shown from the player's view. The player has the freedom to choose in what order they want to find the ingredients and to overcome the obstacles. The player can also choose their own path to the objectives.

Style

- The story is approached from the player's perspective (third person view) where they complete the objectives of the game using varied mechanics in whatever way they want. They also have the freedom to choose the order to find all the ingredients.
- Player has to gain by themselves the main tools of the game depicted from the story.

- The dark spots represent unexplored and mysterious parts of the level layout and create curiosity for the player to look for clues and ways to look for the objectives.
- The light coming from the windows will offer visibility for the player to highlight different places on the map to continue the gameplay and encourage exploration.

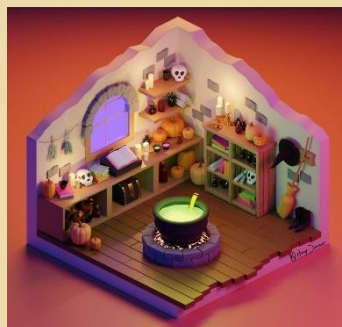
Setting

- The game is set, in a magic forest, in the hut of a witch.
- The rooms will have light and dark spots
- There will be a lot of potions, varied ingredients and books in the room.



Immersion/ world building

- Player has the objective to find all the ingredients in the room and find their way to them by jumping, swinging, gliding and using the wand to move objects
- Each mechanic is represented by different types of spots/ objects: the rope to swing is used for the horizontal bars and where you don't have any intermediate platforms to jump; the gliding mechanic is used in higher places of the map to go to another platform; the wand is used as moving mechanic to create a way of climbing over props to get to the objective; the jumping mechanic is used to jump on flying small platforms to get to another place of



the map; the goggles are used to look at the book for hints from far places.

- The floating platforms are still to ensure stability when jumping on them.
- In the level layout, player has the freedom to choose whatever path they want. All main platforms are connected to each other by the presence of specific objects for the mechanics
- Player experiences excitement, solving and engaging with puzzles, as well as having fun and be challenged by exploring the level using varied mechanics, and trying to find a way to the ingredients (objectives).

- The light spots highlight the zones where the player could go and show the environment.
- In the game, there are a lot of bottles and books placed as obstacles to challenge the player, but in some places to help the player get to the objectives.



- Quest items (ingredients) will be highlighted to help them find them easier.
- The big sparkly book in the room is the main quest giver and will help the player by offering hints where the ingredients are as riddles. The book will always look at the player so they will have visibility to look for the quests. The big book is floating and has magical dust and will be placed near the player so it will catch their attention.



- The big cauldron shows where the player is supposed to place the ingredients.



Level objective

Beatchart

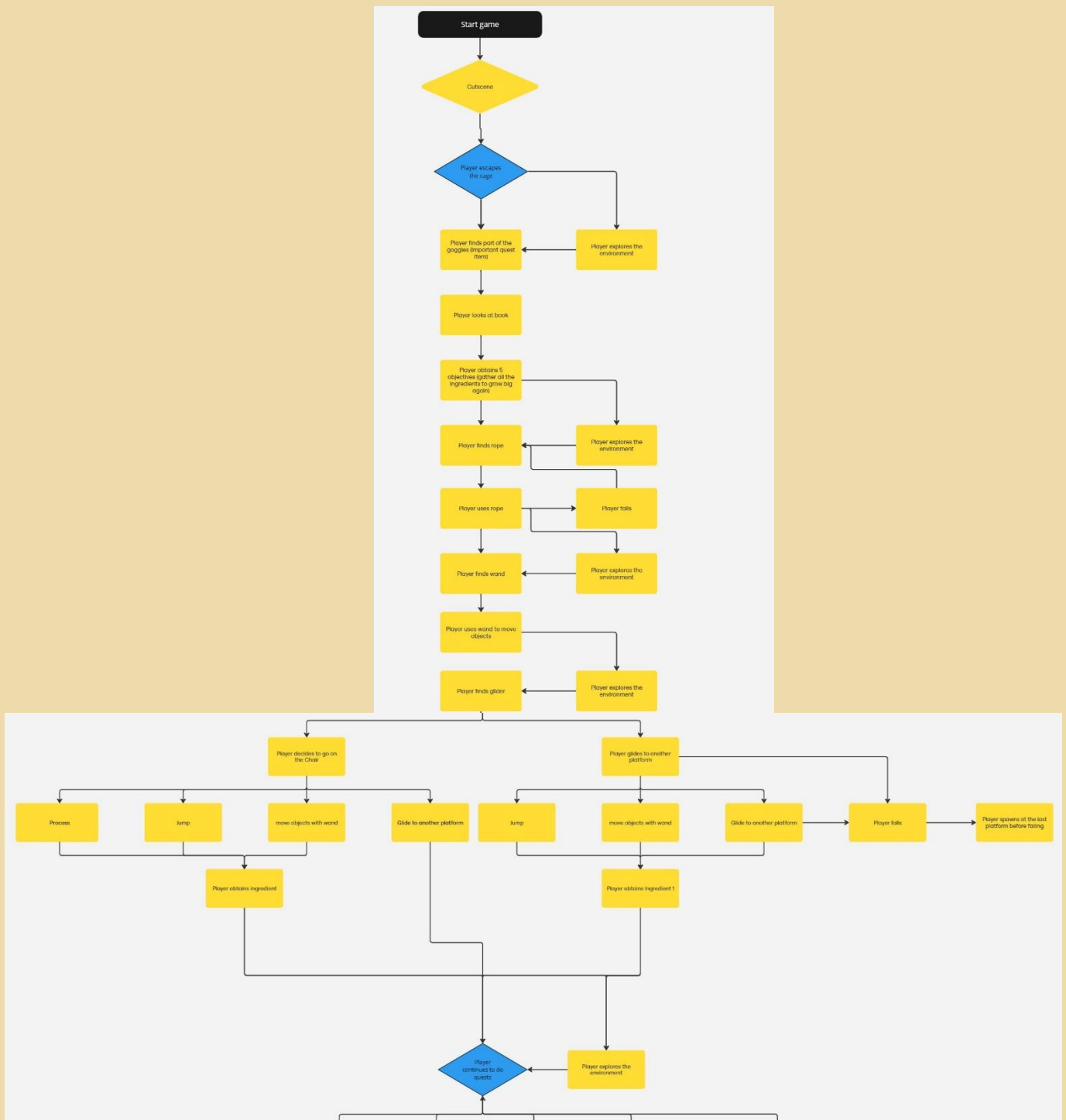
Level name	Starting table 1	Starting table 2	Preparation Table	Reading Table
Location	Witch's hut	Witch's hut	Witch's hut	Witch's hut
Gameplay	Peep, swing	Move objects, glide	Swing, move objects, glide	Jump, glide, swing
Objective	Look at the book with goggles, find and use rope	Move objects, pick up glider and/or use it	Find ingredient (Green Juice)	Find ingredient (Crystal orb)
Story beat	Player figures out the objective, looks around and picks up rope.	Player learns to move objects and picks up glider as a reward/decides where to go. Player picks up the goggles and looks at the recipe book	Player finds the ingredient and moves the cap of the jar to gain ingredient/ decides where to go	Player finds floating objects and jumps on them to get the ingredient/ decides where to go
Emotion	The player's view is blocked by a giant curtain and makes them curious to explore and use the rope	After picking up the goggles the attention is caught by the lights pointing at the recipe book	Player feels a sense of accomplishment of finding an item.	Player is challenged by floating objects and is proud they received the ingredient
Assets	Cage, signs, rope	Potions, glider, goggles, signs	Opened book, jars with caps	Books, boxes, crystal globe, opened book

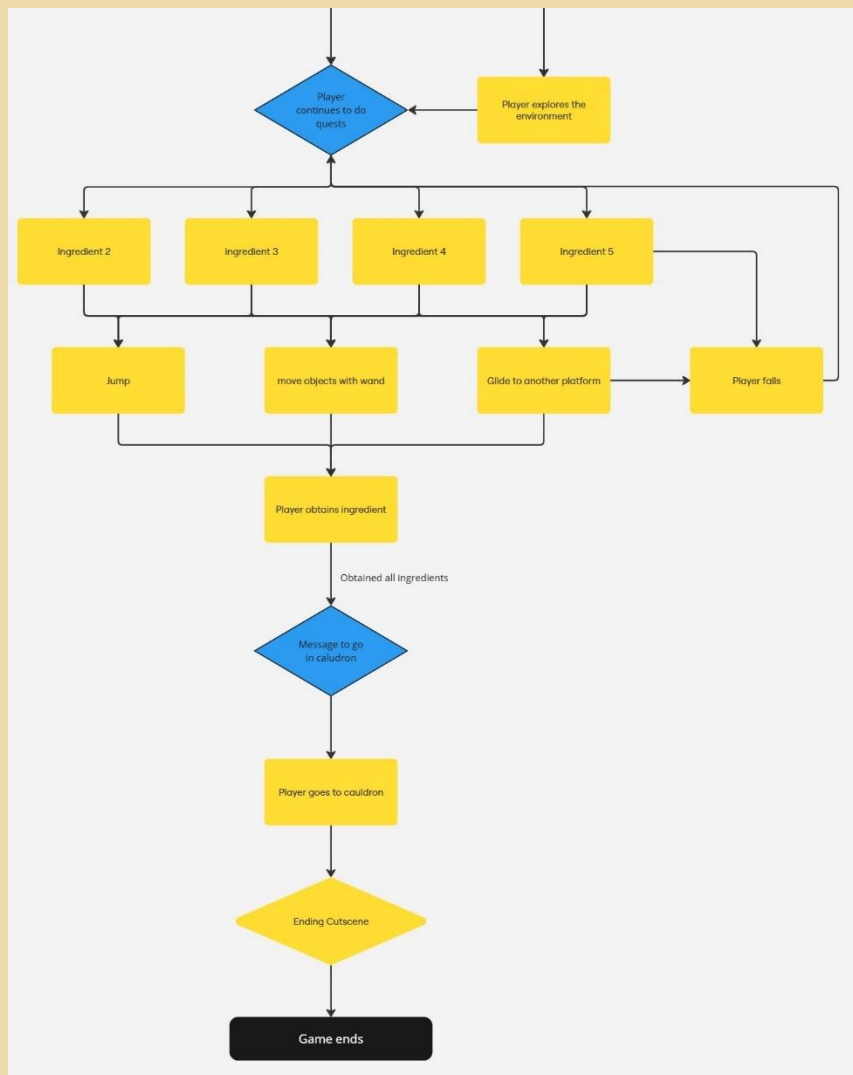
Level name	Books Bookcase	Highest Bookcase	Potions Table	Lonely Shelf	Chair
Location	Witch's hut: table and bookcase	Witch's hut: table and Highest Shelf	Witch's hut	Witch's hut	Witch's hut
Gameplay	Walk, swing, glide	Move objects, walk, jump, glide	Jump, swing	Glide	Jump swing
Objective	Use rope or climb on broomstick to glide from shelf and then glide or swing	Find ingredient (Rooibos dust)	Find ingredient (Frozen pyramid crystal)	Find ingredient (Golden apple)	Choose path
Story beat	Player decides where to go	Player encounters objects blocking the way and climbs on broomstick to get the ingredient/Player finds a way up on the bookshelf	Player find a way to climb on the potion bottles to get to the ingredient/ decides where to go	After the player swings, they pick up the ingredient/ decides where to go	Player decides where to go
Emotion	Player is relaxed as they arrive here only by overcoming challenging obstacles.	Player figures out a way to get on top of the objects blocking the way get on the top.	Player feels pressure when performing the parkour as they are don't want to start over.	Player has a moment of relief and accomplishment for swinging a hard area.	Player has the opportunity to stay for a moment and decides where to go.
Assets	Broomstick, books, signs	Potions, broomstick, books, signs	Test tubes with potions in organizers, signs	Signs	Signs

Flowchart

The preferred flowchart for the game

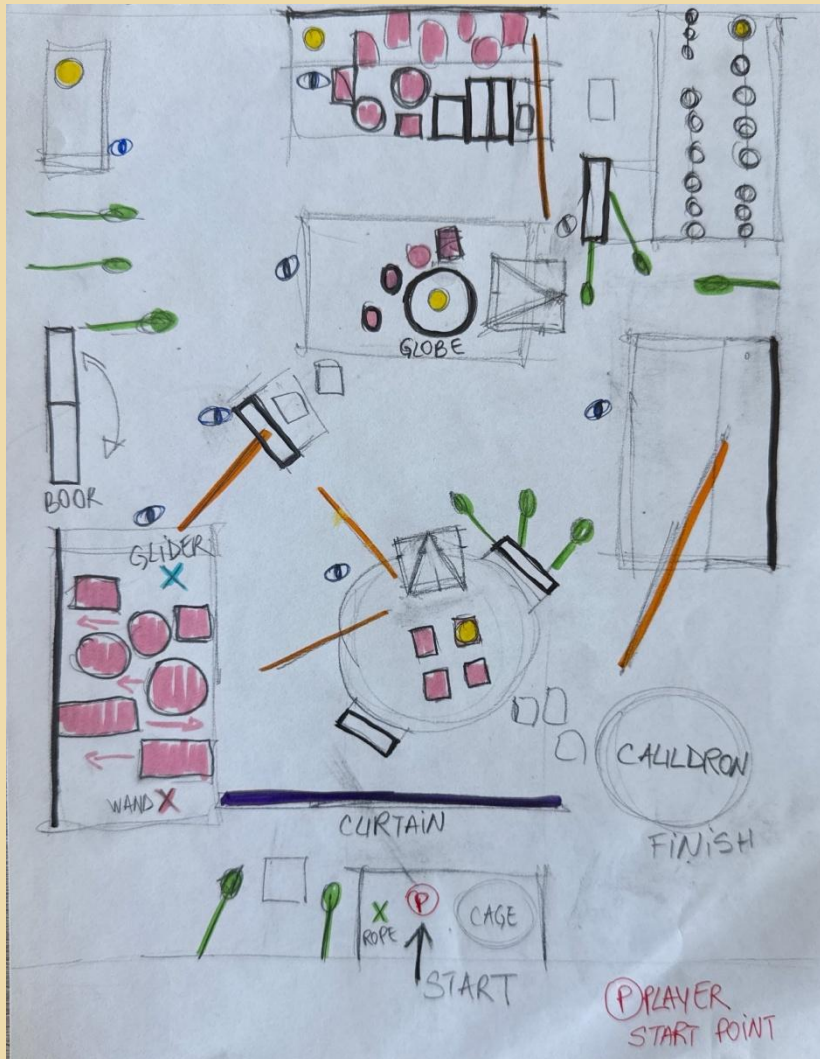
The game has a semi-linear structure so I made a flowchart that shows the possible order the player would play the level.





Concept art- level design

Sketches for the game (where the player will use the mechanics)



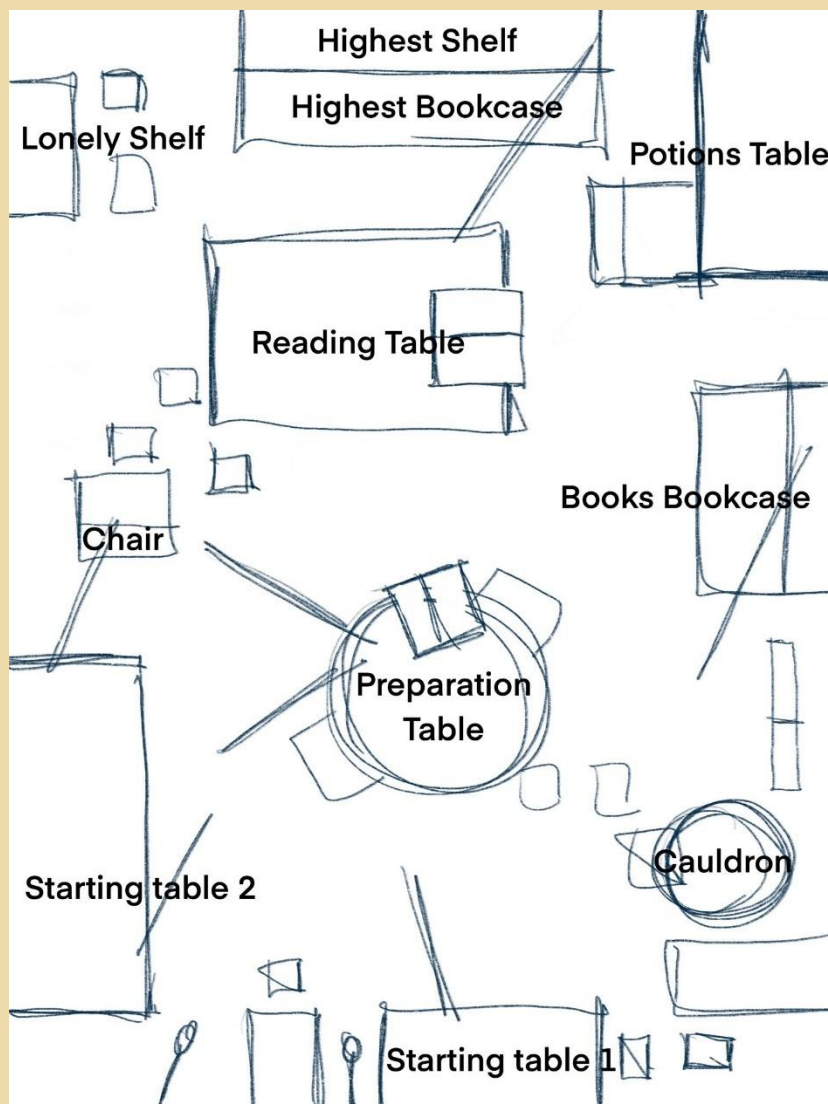
Color code:

- Player starts in the cage
- **Green** is for the zones where the rope will be used
- **X** is for the location of the rope
- **Blue** is for the location of the glider
- **P** is for the location of the magic wand
- **Pink** is for the objects and platforms that the player can move (player can move the objects from the tables or shelves) or jump on
- **Orange** is for the broomsticks, where the player can walk on them to get to a higher point
- **Yellow** circle is for the location of the ingredients
- The eye icon is for possible locations where the player can take a look at the recipe book
- The book will always

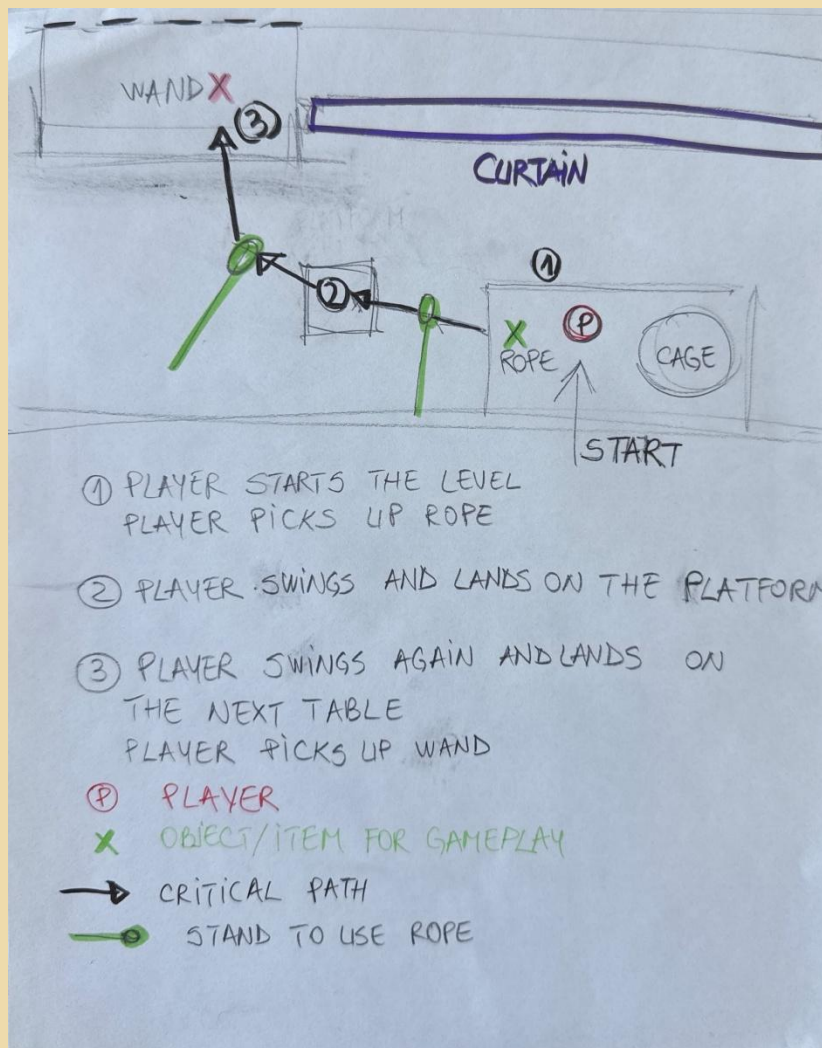
face the direction of the player

- The white shapes cannot be moved
- **Purple** is for the curtain that is blocking the view of the player
- The rectangle shape with a triangle is a symbol for showing a tilted object (ramp symbol from architecture), which is actually an opened book in the game

Name of the landmarks



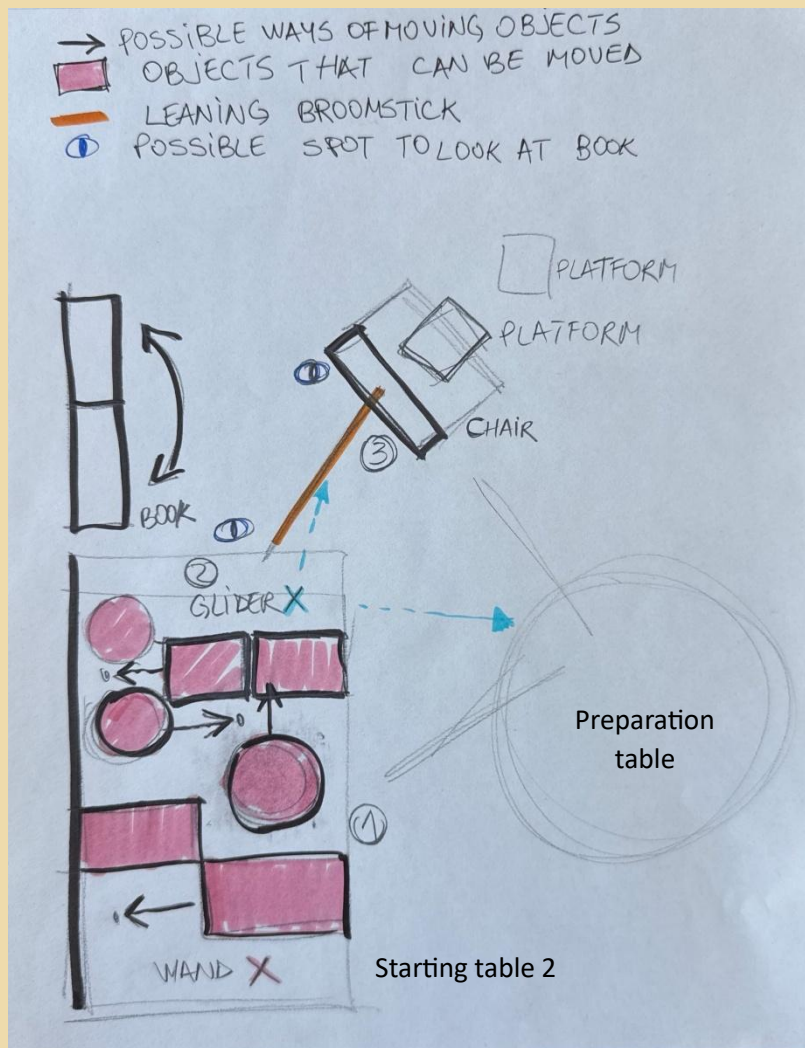
Introduction part 1



Explanation of level:

- Player starts outside the cage, after the cutscene
- When they start their view will be blocked by the curtain and are motivated to discover more
- In this area, I wanted to introduce the player to the first item they will use, the rope for swinging around.
- Next, they have to use it two times to understand how to use it in the future
- As a reward they will receive the next item, the magic wand

Introduction part 2



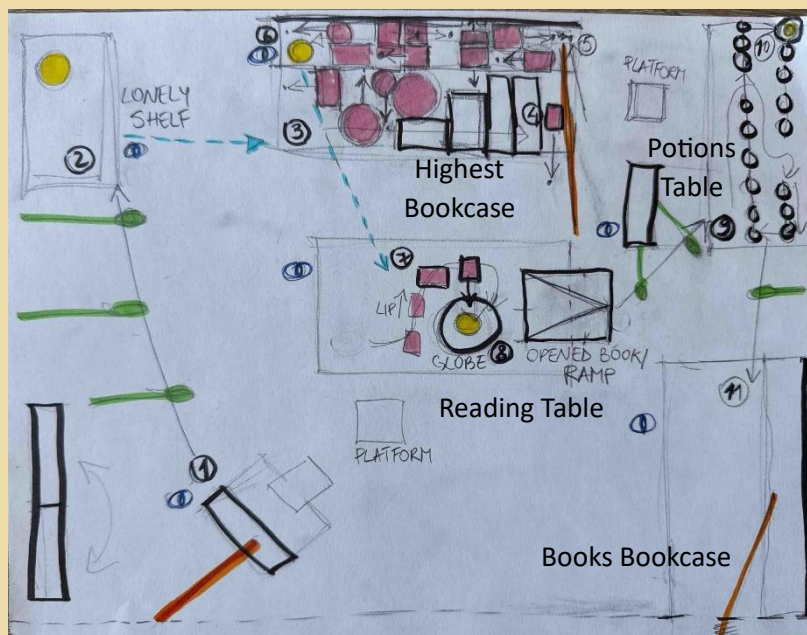
Color code and signs:

- **X** is for the location of the glider
- **The dotted blue arrows** are for the possible paths the player can take to glide
- The eye icon is for possible locations where the player can look at the recipe book
- Critical path:
 - o 1. Player moves objects and jumps over them to get to the glider
 - o 2. They pick up the glider and glide on the chair
 - o 3. After they landed they look at the book and decide where else to go

Explanation of level:

- After the player picks up the wand they are blocked by an object and need to move it (in the graybox the objects will be moved in the direction in the drawing)
- Then they have to move other objects scattered on the table and climb on the bigger object
- After they move the objects they jump on the last object
- During testing players were hesitating to use the glider as they might fall so I moved the glider on top of the last object to have a higher and safer distance to glide to the chair and removed the broom stick and players wanted to jump and climb on it. Later I placed the goggles near the glider to show them how to use the item for further use and highlight where the recipe book is.
- As a reward they pick up the glider and use it to land on the chair

Other parts of the level



Color code and signs:

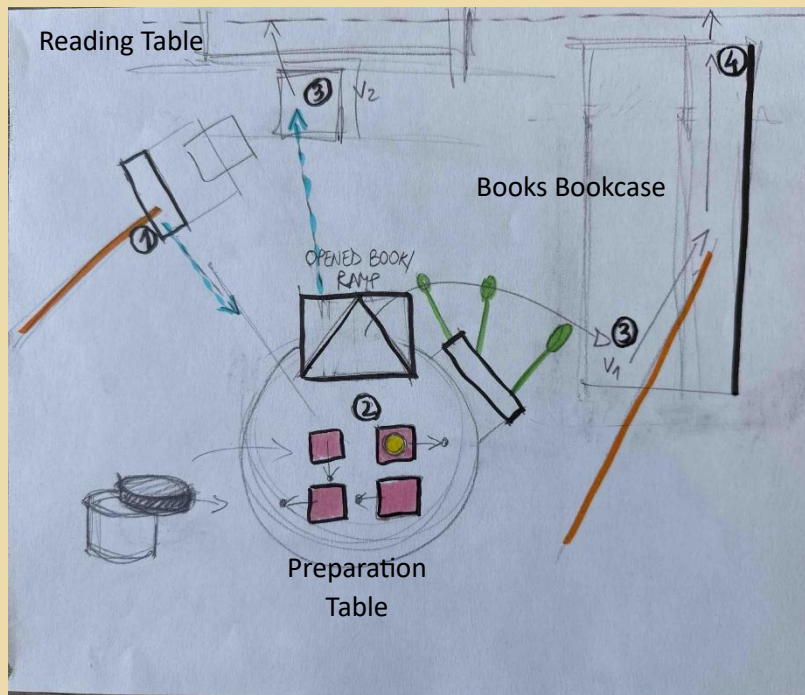
- **The dotted blue arrows** are for the possible paths the player can take to glide
- The eye icon is for possible locations where the player can look at the recipe book
- **Green** is for the zones where the rope will be used
- **Pink** is for the objects and platforms that the player can move (player can move the objects from the tables or shelves) or

jump on

- The arrows for the pink objects are ideal moving directions for the objects
- **Orange** is for the broomsticks, where the player can walk on them to get to a higher point
- **Yellow** circle is for the location of the ingredients
- Critical path:
 - o 1. Player uses rope to swing and get to the "Lonely Shelf"
 - o 2. Player lands on the shelf and gets the ingredient and glides on a table
 - o 3. After they landed, they move objects and climb on them to get to the broomstick
 - o 4. Player moves another object to jump on the broomstick and goes on the highest shelf
 - o 5. They start to move other objects to get the ingredient
 - o 6. They acquire the ingredient and glide on the table with the crystal globe
 - o 7. They jump on floating objects to get on the globe
 - o 8. They receive the ingredient, go on the opened book, swing and get on the table with potions
 - o 9. They jump on the glass
 - o 10. They receive the next ingredient and swing to another table
 - o 11. They arrive on Books Bookcase.

Explanation of level:

- After they swing and get an ingredient, the player is rewarded by gliding to another table as shortcut.
- Then they get to practice their problem-solving skills by moving objects and climb on them.
- After moving the objects from the highest shelf, they are again rewarded by gliding to another table, since they overcome a challenging area
- Later, on the table with potions I added shortcuts as some players were annoyed they had to go and restart from a long way
- Books Bookcase is a transition point for the last intended ingredient



Color code and signs:

- **The dotted blue arrows** are for the possible paths the player can take to glide
- **Green** is for the zones where the rope will be used
- **Pink** is for the objects and platforms that the player can move (player can move the objects from the tables or shelves) or jump on
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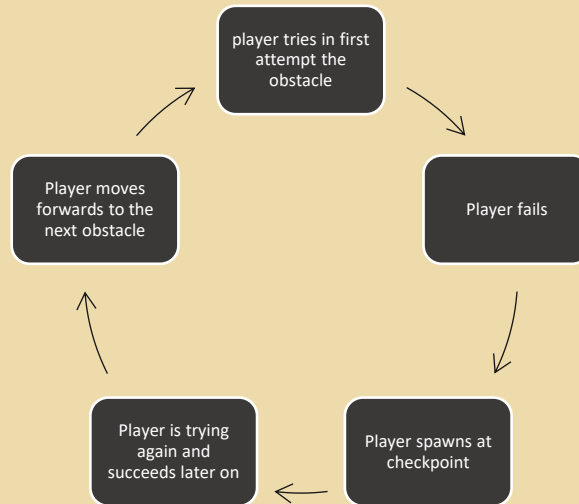
- **Yellow** circle is for the location of the ingredients
- Critical path:
 - o 1. Player decides to glide on the Preparation table, and lands on the broomstick
 - o 2. Player moves the caps of the jars and find the ingredient based on the riddle
 - o 3. V1: Player decides to swing and climb on the broomstick
 - o 3. V2: Player decides to glide and lands on a platform

Explanation of level:

- In case they want to try another path, they can glide to the table and use the wand on easy puzzles (only moving one object)
- As a reward they can glide to another table easily or choose a more challenging path like climbing on the broomstick and glide later to another location.

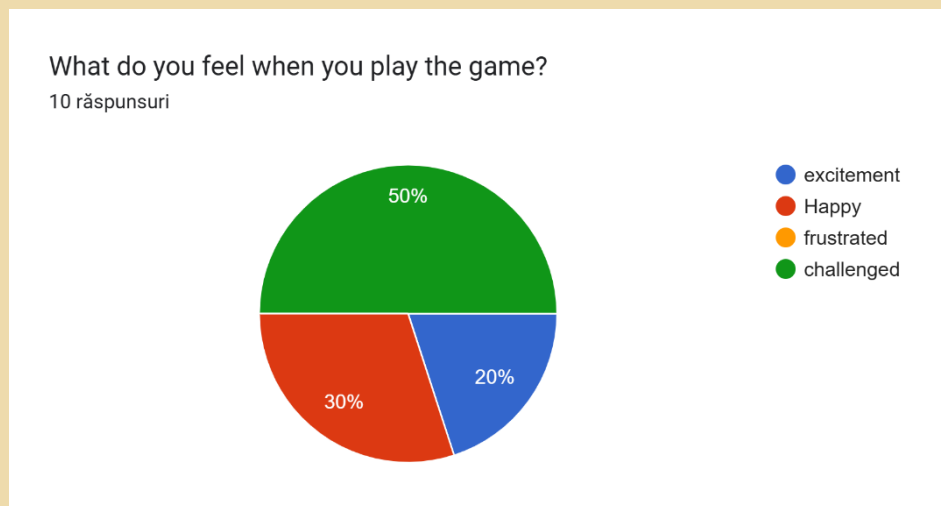
Feedback loop

- Negative feedback loop: when the player tries first the mechanics, they will succeed and, later on in the level, they will use them more frequently and they will encounter challenging areas with the mechanics and will likely fail at first attempt; when the player fails to use the mechanics by falling and dying, they will start from the last platform they were, and all progress will be kept to increase the chance of success in future attempts and will encourage the player to continue the gameplay.



Emotional feedback

- The layout of the game is open-space and is visible by the player, after the tutorial area. Obstacles, platforms and decorations can be seen very easily from the player's perspective and in this way the player can set out personal goals and decide their own path in the level.
- The repetitive mechanics practiced by the player will enhance mastery and will give them a sense of control and power over the objects in the map.
- The player might fail while performing the mechanics and they will learn from their mistakes. Usually, players will fall when trying to jump, glide or swing to get to another platform and with each failing attempt they will learn from shock. Players also might feel fear of failing again or even frustration of not overcoming an obstacle, but the checkpoints will help them reduce these



emotions in order to deliver an enjoyable or fun experience. The presence of checkpoints shows a sense of relief for the player that all progress won't be lost after the hard work performing the levels.

This is a picture of the results after testing about the main emotions of testers. No tester was frustrated by the challenges.

Rewards

- In the beginning of the game, after the player jumps, swings and moves objects to get to the glider, the player will be rewarded by using the glider to get easier to different parts of the map.
- Some items are placed in high places so after the player gets them, they can glide to another spot easier.
- Player has to advance in the game by overcoming obstacles using the mechanics. After surpassing the challenges, the player will become more skilled with the mechanics and will have a higher chance of succeeding in further challenges.
- After the player gathers all the ingredients, they can now go into the cauldron to finish the game.



Quests from book

- The main focus of the game is the quests shown as riddles to challenge the player into exploring and setting their own path and goal as well as giving them hints about the location of the ingredients.
- Ingredient 1- "on a table you PREPARE, only one is good. GREEN is the ingredient."
- Ingredient 2- "on a LONELY SHELF the GOLD you seek to find"
- Ingredient 3- "on HIGHEST SHELF you look, the ingredient you seek is there"
- Ingredient 4- "glass after glass, on POTIONS TABLE you seek"
- Ingredient 5- "on CRYSTAL GLOBE, on the READING TABLE, the item you seek to find".

Gameplay moments

- There will be a 2D cutscene to show the main objective of the game (finding a solution to grow big) and show the context of the game as well as the introduction of the story.
- After the end of the cutscene, the player can move freely and explore the level as well as doing the quests. Player's view will be blocked by the giant curtain and is motivated to explore what is behind it. They will figure out how to find the ingredients by moving objects and swinging, eventually finding the recipe

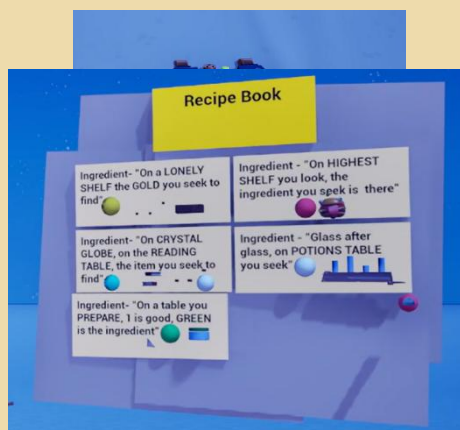
book. They will search for the potion's recipe and after they find it, they will look at the riddles to find the ingredients.

- In the beginning of the gameplay, player will be introduced to the mechanics. They will encounter a sign in the direction of the recipe book and look around, then they will see the rope and they are forced to use it to get to the next platform and use it again to advance further to the larger platform, which is a table from the room.
- Afterwards their path is blocked by objects, and they will have to pick up the wand which is in front of the first objects blocking the player. While moving the objects, the player will figure out which one to move and will learn how to use it and when. After they go past the obstacles, the player is rewarded with a glider, a big leaf, which they can pick up at the edge of the table. Moreover the player will find out more about the clues on the recipe book and picks up the goggle for further use. Player looks at the first ingredient and looks at a sign pointing in that direction. They see a chair at a lower level and glide on it.
- After they arrive on the chair, they can choose where to go next and will encounter similar zones like in the introduction zone to use the mechanics
- When the player falls from the map they will die and respawn at their last registered check point. They can die infinite number of times.
- After the player gathers an ingredient the progress window will be updated. And if they gather all the ingredients a message will be shown in the HUD and give them directions to go to the cauldron to drop the ingredients to make the potion
- A 2D cutscene will be shown of how the player grows big and escapes the witch's hut, then there will be an ending menu with "The end" like in fairy tale books and player returns in the main menu.

Graybox

Features adapted to Fortnite

- Player will start in the level and no cutscenes will be shown
- Player can create a checkpoint on "Checkpoint pads" which are green markers.



- The recipe book is shown as five billboards for each ingredient and the billboards can't turn towards the player's direction.
- The goggles are shown as a sniper item, the rope is shown as a grapppler item and the leaf is shown as a glider item specific to Fortnite assets

- After the player gathers all ingredients the message will show on the HUD and player needs to go in the cauldron and press a button to end the game
- The ingredients are shown as random objects from Fortnite

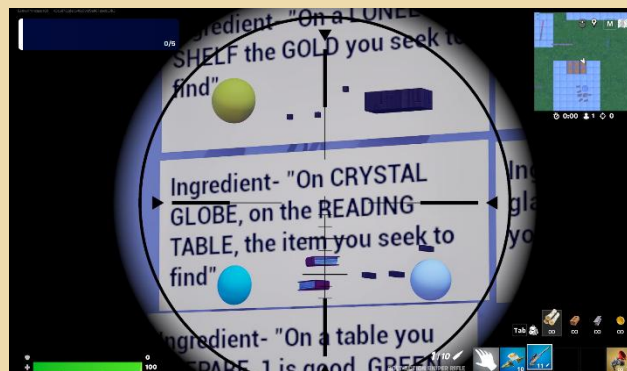
Gameplay actions

Main gameplay

- Player can:
 - o move by using the W, A, S, D keys
 - o Jump by pressing the Spacebar
 - o Pick up objects by pressing the E key
 - o Create a checkpoint by going on the specific pads
- Core mechanics:
 - o Peeping with goggles by using right click mouse button
 - o Swinging by using left click mouse button at specific and marked locations
 - o Gliding by pressing two times on the Spacebar
 - o Moving objects by using left click mouse button

Graybox

- There is no main menu, player starts directly in the level
- When using the sniper, player uses right click mouse button



- Player moves objects by pressing the E key from the buttons in specific locations



- Swinging is possible when the player uses the grapples and points the cursor at an accessible point to perform swinging, if they have an X on their cursor, they can't perform swinging (part of the grapples system of Fortnite)



Environment and assets

Furniture/decoration

- Tables
 - Tables are the main platforms where the player performs the gameplay



- Chairs
 - Hold horizontal sticks for swinging and the seat has the role to save the player from falling and dying



- Bookcases
 - Player can look around from a high place, can be a place for swinging and hide an ingredient



- Floating platforms
 - Helps the player to jump over them to get to another platform or table
- Broomsticks
 - Helps the player to get to high places, on tables or to a chair

- Books
 - o Serve as jumping platforms to get to ingredients or are just decoration



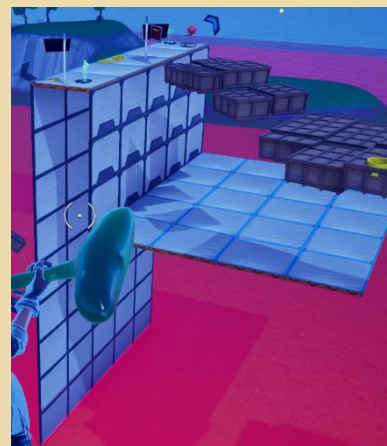
- Horizontal sticks attached to walls and chairs
 - o They are placed on walls or chairs to help the player get to another platform or table as well as serving as swinging places for the rope

Graybox

- Tables



- Chairs



- Bookcases



- Floating platforms



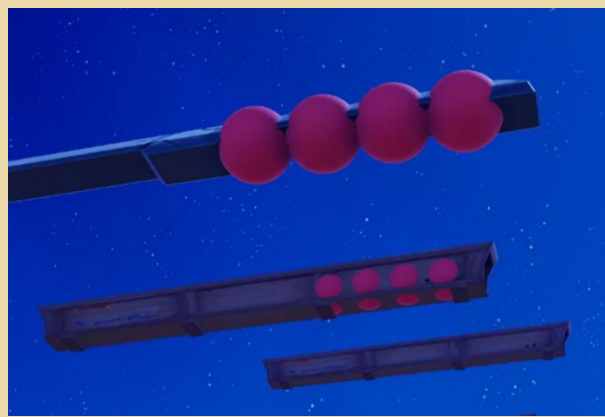
- Broomsticks



- Books



- Horizontal sticks



Interactable objects

- Potion bottles or jars, books, boxes and caps
 - o Player can move objects with the magic wand in order to advance in the game



Graybox

- Similar assets to potions, jars, books and random assets from Fortnite



- The objects that can be moved are orange and the white ones are standing still

Items

- Goggles
 - o Zoom in on the book (peeping)
- Rope
 - o Player uses this item for swinging and getting to another platform
- A huge leaf (glider)
 - o Can be used for gliding through the map to get to another platform
- Magic wand
 - o Can be used to move objects to continue the gameplay

Graybox

- Goggles as Sniper (only in Fortnite)



- Rope as Grappler



- A huge leaf (glider) as Glider from Fortnite



- Magic wand as buttons near objects (only in Fortnite)



Ingredients

- Green juice
 - o Player finds this item in a jar on the “Preparations Table”
 - o player has to move the cap pf the jars with the magic wand



- Crystal orb
 - o The item can be found on the crystal globe on the “Reading Table”
 - o Player has to jump over floating objects to get on the globe
- Rooibos dust
 - o The item can be found on the “Highest Bookcase” on the “Highest Bookshelf” (“Highest Point”)
 - o Player gets there by moving objects and climbing on the broomstick
- Golden Apple

- The item is located on the “Lonely Shelf”
- Player gets there by swinging on horizontal sticks



- Frozen pyramid crystal
 - The item is located on the “Potions Table” on one of the potion glasses
 - Player has to jump over the bottles

Graybox

- Green juice is a Green glowing tube
 - Player has to press the button to remove the cap



- Crystal orb is a blue ball



- Rooibos dust is bacon parts



- Golden Apple is a golden shoe



- Frozen pyramid crystal is a blue pyramid



User Experience

- Items and signs for guidance
 - o The items that will be used by the player will glow bright yellow so it will catch the attention of the player
 - o The signs for the items will be placed behind the items so it will give a sense of guidance on how to use the items.



- Particles
 - o Yellow glowing particles will appear around the recipe book to highlight where the player should look and, because it is the quest giver of the game (an important asset in the game).
 - o In the start of the game, particles will appear to direct the player to look at the recipe book
 - o Glowing particles pointing in what direction the player should move the obstacles, to help the player understand how the mechanic works
 - o The ingredients are always glowing in different colors, based on the riddles, to indicate the objective of the player and to spot them easier
- Signs
 - o Signs as arrows with text to point the direction of nearby landmarks and serve as a role of guidance through the map.
 - o Simple signs show the name of the landmark so the player would know where they are



- Landmarks on HUD

- Whenever the player gets to one of the main platforms/tables in the game, a text will show on the HUD of the player to inform them about their current location, on what landmark they are now
- after 5 seconds
- Showing the landmark to the player is helpful in case they miss the signs
- Shapes for items
 - For the locations when the rope is required there will be a red “X” mark to indicate where the player needs to aim and shows an “E” button sign to indicate the button they need to press as well as “X” mark on the floor to indicate a potential position from where the player can use the rope and catch the attention of the player.
 - Near the swinging positions there will be an arrow sign pointing in the direction of where the player should go and use the rope
 - The gliding locations will be shown as a yellow circle mark to indicate potential spots for gliding. The circle marks will also be present as potential landing spots to encourage the player to glide and show where they can land.
- Riddles
 - The riddles are written in a few words and the key words are written as colored letters to highlight the location of the ingredient and the color of them.
 - Next to each riddle there will be 2D icons that describe the location of each ingredient and the color of the ingredients.

Graybox

- Items and signs for guidance
 - Items won't glow but will be placed in “item spawners”
 - The signs are billboards with blue background and border.



- Particles
 - They are present as mentioned for the actual game



- Signs

- The signs are billboards with red background and border and the arrows are shown as text (“- - >”) because Fortnite doesn’t offer custom billboards in different shapes.
- The signs of each landmark are shown as billboards with red background and border



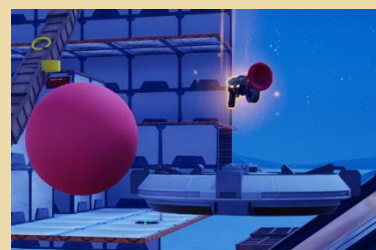
- Landmarks on HUD

- The text is present on the HUD and will disappear after 5 seconds but might appear again due to the invisible triggers on the floor



- Shapes for items

- For the locations when the rope(grappler) is required there will be a red sphere placed to point where the player can aim to shoot with the grapple. The spheres are also placed near the item spawners for the grapple to indicate that they can use the grapple in the specific location.
 - the arrows are to show where the player should go to use the grapple are present on the map, they are guiding signs for the player

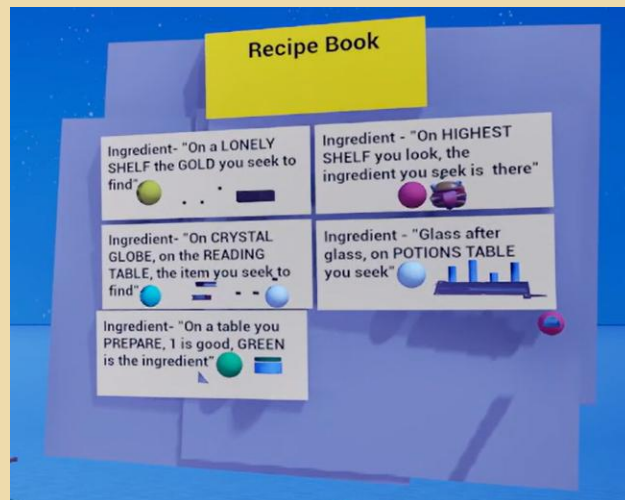


- The gliding locations will be shown as a yellow circle shape on the floor and will also be present as potential landing spots to encourage the player to glide and where to land



- Riddles

- The riddles are shown together on white billboards without border to be similar to a book
- The icons are shown as 3D assets from Fortnite
- The title of the book is written on a yellow billboard to highlight the role and importance of the book during gameplay
- I used capital letters for locations and colors of the ingredients to help the player finding them easier and focus on the parkour and create a path



Testing with target audience

- The graybox was tested with people within the target audience including students from CMGT as well as students outside of this study, a graduate student and a teenager. I tested with varied people to get diverse feedback to improve my graybox. I tested in total with 10 people
- I prepared a questionnaire about their experience playtesting the graybox as well as asking them questions about the riddles, signs and further adjustments.

Tasks for testing

- During the testing I gave them the task of finding a way by looking around and eventually they could spot the billboards representing the book
- The next task was to pick one of the riddles and try to find the ingredients.
- After that task I let them choose and do the other objectives and eventually they finished the game

Results and testers actions

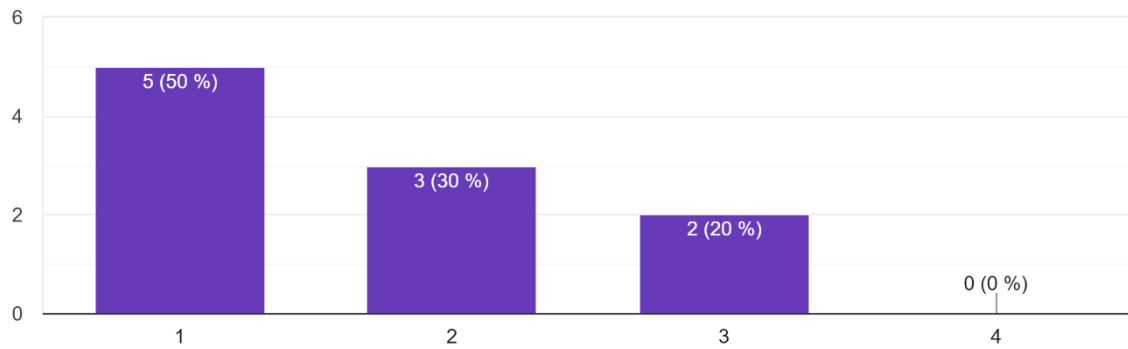
Early stages of the graybox

- Testers didn't see the riddles only after I told them and couldn't understand the riddles
- Testers didn't know where to go and used the grapples wherever they wanted and ignored the horizontal sticks sometimes
- Testers fell from platforms or couldn't finish the grapple parkours
- Testers didn't see the button to move objects
- Most testers were afraid to glide to another platform
- Testers didn't know what ingredient to look for, they just tried to explore and move between platforms

Questionnaire responses

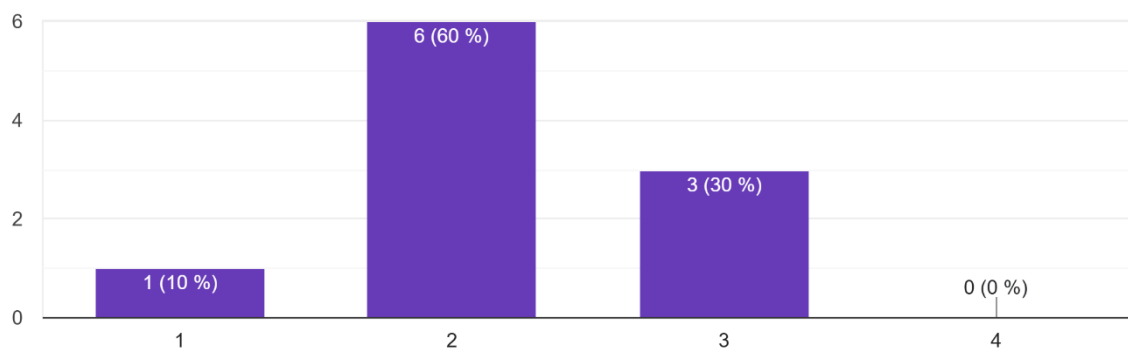
How difficult was to find the objects?

10 răspunsuri



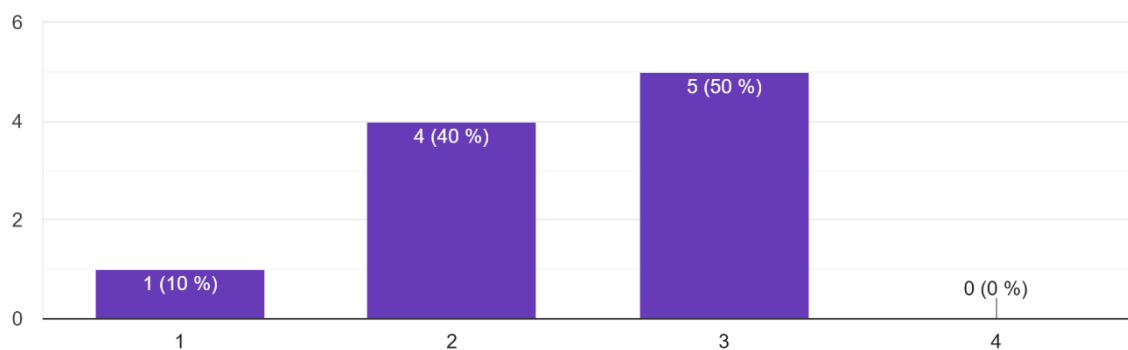
How difficult was to find a path to get to the objectives?

10 răspunsuri



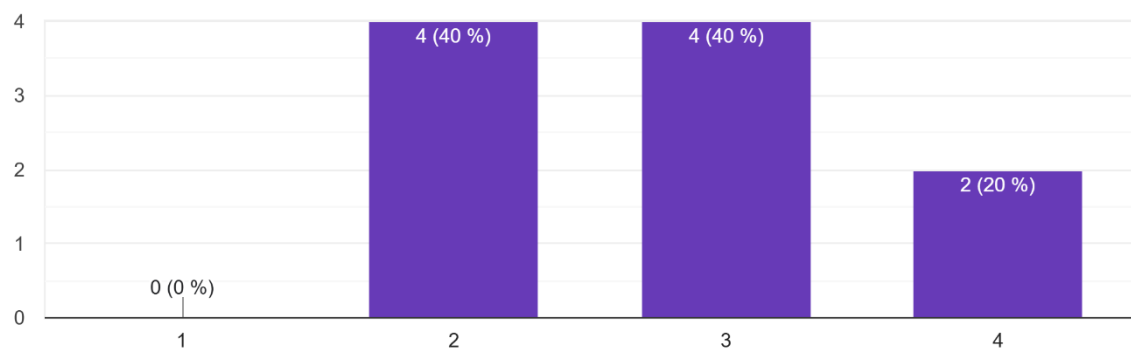
How exciting was to play the game/level?

10 răspunsuri



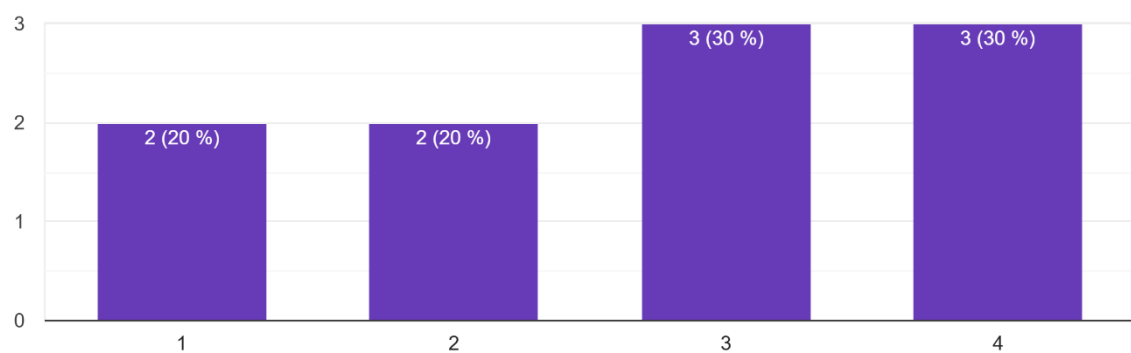
How engaged are you into the game?

10 răspunsuri



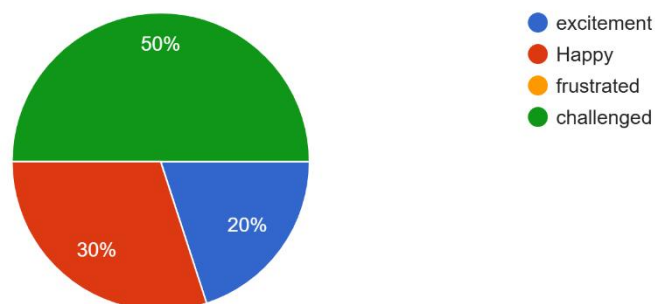
How difficult was to think about the riddles?

10 răspunsuri



What do you feel when you play the game?

10 răspunsuri



Additional feedback

Any additional feedback?

7 răspunsuri

Some more checkpoints since falling and having to redo a lot is annoying. Make some of the objects more clear what they are. Maybe place the riddles in a few places so its visible everywhere unless part of it is a memory puzzle

pudding

i feel like some paths are not communicated well and the buttons moving stuff is kinda unintuitive, there are also a lot of red herring.

be more consistent with the moving

make the riddles more into the game!

1: unclear hints; 2: unclear intended path for grappler; 3: too easy to reach current objectives 4 annoying to spam the button to move objects

1. Object were quite easy to locate after finding the location 2. The past is fairly difficult if you dont have the grappler 3. Exiting to collect the ingrediets, however a little more feedback after collecting would be nice 4. One I understood the mission, I am all in, so 100% engaged. 5. The first two are a bit hard as the map is unknown at the begining and the symbology is simple, unlike the one with the potions where you can tell fairly easily where you have to go.

Some testers preferred to tell me in person:

Icons for book
Highlight the objects

Make objects obvious
Intuitive no more writing

Make the riddle shorter
Make the signs more clear
Hard to differentiate - make actual
items for the witch
Issues with grappler
Objects are easy to spot
Different colors
Parkour is good
Add title for book

Button fir
Landmarks more visible
Change vans and fridges
Change potions from shelf

- Add more checkpoints
- He likes the open world concept
- Icons for the book
- Highlight the ingredients, make them glow
- Add props like witch's items
- Found the signs and particles in the beginning of the gameplay helpful
- Found the circle for the glider helpful for gliding and landing
- Understood that the red spheres are for the grappler
- Found the riddles easy
- Found the parkour easy except the potions table

Improvements after testing

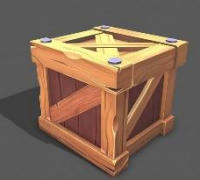
- I added more checkpoints in different places on the map to help reduce frustration for players
- I added particles effects to point in the direction of the recipe book
- I added arrow signs in the beginning of the game to indicate where the players need to go and to point the direction of where the horizontal sticks are to use the grappler and the landing spots for gliding, after that the players knew where to use the grappler and where to land
- I added red spheres to identify easily where to use the grappler as well as near the grappler spawners
- I added yellow circles on the floor and in other locations to show potential gliding and landing spots, in order to encourage players to glide
- I added different billboards to near items to show how to use them, to point the direction of nearby landmarks and to show the landmark on each important location
- I added a small fire to highlight the first button the players encountered because some testers couldn't see the button and couldn't progress in the game
- I added, in some grappling zones, a lower platform (as a seat of the chair) to give the players a second chance to continue grappling
- I added particles near the recipe book to be spotted easier by players when navigating the map and to highlight that it is an important object in the game
- I added invisible triggers to disable the grappler when it isn't needed and place multiple grappler spawners near the grappling areas
- I added invisible triggers to show the landmark on the HUD of the player to inform them about their current location
- I made the riddles shorter; I included the location of each ingredient as landmarks names to help the player understand where the ingredients can be found and added simple assets to show a visual representation of specific objects from locations and colored spheres to distinguish the ingredients.

Future improvements

The game had different opinions about the level of engagement the game offers based on the test results, so I will focus and develop the universe of witch's hut, add more interactable objects like having the objects from bookshelf moveable by wand and giving freedom to players drink and craft potions to give them huge advantages for a short period of time. I would add side quests to players to keep them occupied playing the game and talk to creatures (slimes, fireflies, butterflies) from the room as a reward after overcoming a difficult obstacle, add interaction with the witch to explore her character and the universe of the game. Also, I would focus on the riddles and make them easier to understand, add more feedback when collecting an item as players didn't know if they collected an item or not (the progress text was too small) and I would expand the level as players liked doing parkour and exploring freely.

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