

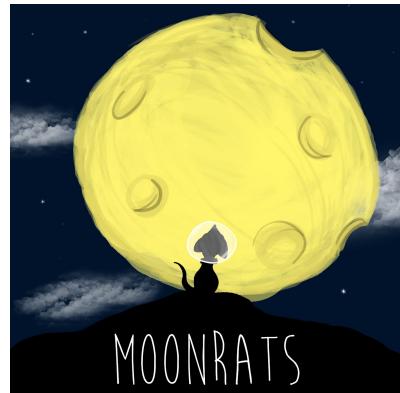
“Howl’s Moving Castle: Deals & Demons” - Level 10

Waste Disposal Plant



Level Design Document

Moonrats - Academic Year 2018/2019



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Revision History

Who	When	What
Matteo	26/10/2018	(story) document created
Riccardo	28/10/2018	high concept, setting, synopsis
Marco	29/10/2018	high concept, setting, synopsis, themes
Marco	30/10/2018	high concept, setting, synopsis, themes
Riccardo	2/11/2018	characters
Marco	4/11/2018	characters, themes
Matteo	5/11/2018	characters, themes, story flow chart
Riccardo	6/11/2018	(world diagram + goal outline) document created
Riccardo	7/11/2018	world diagram, goal outline
Matteo	8/11/2018	world diagram, goal outline, high concept, synopsis, story flow chart
Marco	10/11/2018	complete story, synopsis, themes, story flow chart
Marco	13/11/2018	complete story, story flow chart
Riccardo	16/11/2018	complete story, characters, world diagram, goal outline
Matteo	18/11/2018	global revision
Marco	20/11/2018	global revision
Riccardo	23/11/2018	story of the level, story flow chart
Matteo	27/11/2018	story of the level, characters, world diagram, goal outline
Riccardo	29/11/2018	(level diagram + level description) document created
Riccardo	30/11/2018	1st area plant, 1st area description
Marco	1/12/2018	1st, 3rd area plant, 1st, 3rd area description
Matteo	3/12/2018	1st, 3rd area plant, 1st, 3rd area description
Matteo	4/12/2018	1st, 3rd area plant, 1st, 3rd area description, sheets
Riccardo	6/12/2018	3rd area plant, 3rd area description, sheets, outcomes calculations
Marco	7/12/2018	story, world d. + goal outline and level d. docs merged into this one
Marco	8/12/2018	story global revision
Riccardo	9/12/2018	story global revision
Matteo	10/12/2018	sheets, outcomes calculations
Matteo	11/12/2018	1st, 3rd area plant, 1st, 3rd area description, outcomes calculations
Marco	12/12/2018	update area description, settings
Riccardo	12/12/2018	3rd area plant
Matteo	13/12/2018	outcomes, images, settings, sheets, encounters
Matteo	14/12/2018	general infos in level description, area flowchart
Marco	17/12/2018	update of image references
Matteo	18/12/2018	level story, level description
Matteo	21/12/2018	sheets, statistics, predictions
Matteo	26/12/2018	encounters
Matteo	30/12/2018	additional mechanics, data organization doc merged
Riccardo	03/01/2019	level diagram Tunnels
Matteo	04/01/2019	level diagram Balconies
Marco	05/01/2019	level diagram/description Rocky Wall
Marco	06/01/2019	level diagram/description Plant

Matteo	07/01/2019	level description, sheets, story of the level
Riccardo	08/01/2019	additional mechanics, level diagram/description
Marco	09/01/2019	level diagram, update of all maps
Matteo	10/01/2019	general revision, event diagram
Marco	14/01/2019	general revision
Matteo	14/01/2019	general revision
Marco	21/01/2019	general revision, physical prototype
Matteo	21/01/2019	general revision, character and enemies sheets
Riccardo	22/01/2019	game design section, digital prototype
Matteo	22/01/2019	high concept (game), additional mechanics, physical prototype
Marco	23/01/2019	cover image, character and enemies sheets
Riccardo	24/01/2019	final revision
Matteo	24/01/2019	final revision
Marco	24/01/2019	final revision

High Concept (Game)

This is a **single player adventure** game, mainly focused on puzzle solving but also on **exploration** and **real time combat**. Despite the fact that encounters are not turn-based, rules in the Game Design Document (Dungeons & Dragons first edition) are still applied, but with few adjustments (see “[additional mechanics](#)” at page 20).

The avatar of the player is the protagonist of Howl’s Moving Castle: the witch Sophie Hatter. With her there’s the fire demon Calcifer, that Sophie uses as a weapon to defeat the enemies, so together they count as only one playable character.

As we will see later in the “Additional Mechanics” chapter, the main feature of the game are the **golems** that Sophie can animate with her magic. Every golem has its peculiar usage and a cost in resources in order to be used. So the player, while solving puzzles, needs to choose wisely which golem to choose in order to avoid wasting resources.

Lastly, level boss fights are not actual encounters but more like **dynamic puzzles**: these enemies are immune to Sophie and Calcifer’s attacks and the only way to defeat them is by using the brain and exploiting game elements present in their arenas.

High Concept (Story)

The game is about Sophie and Calcifer in a quest to rescue Howl, who has been kidnapped by Evelyn, a mighty witch seeking for power who can rely on two fire demons: Lilifer and Mephistofer. Using Howl as an hostage, she wants to force Calcifer to make a contract with her.

In order to become stronger, Sophie and Calcifer make a deal: Sophie’s heart in exchange for more power, with the condition of using it solely to save Howl. The drawbacks of such contract are that Calcifer can no longer move freely and Sophie gradually loses her kind-hearted attitude.

During the quest Sophie and Calcifer will encounter two other characters related to the witch: the first is William, a man who was heartbroken by Sophie and Howl relationship, and for this reason he became an hermit. While in hermitage, he met Evelyn who cursed and deprived him of his identity, turning him into a madman. After meeting Sophie in the castle, he will trade the stuff he gathers with her.

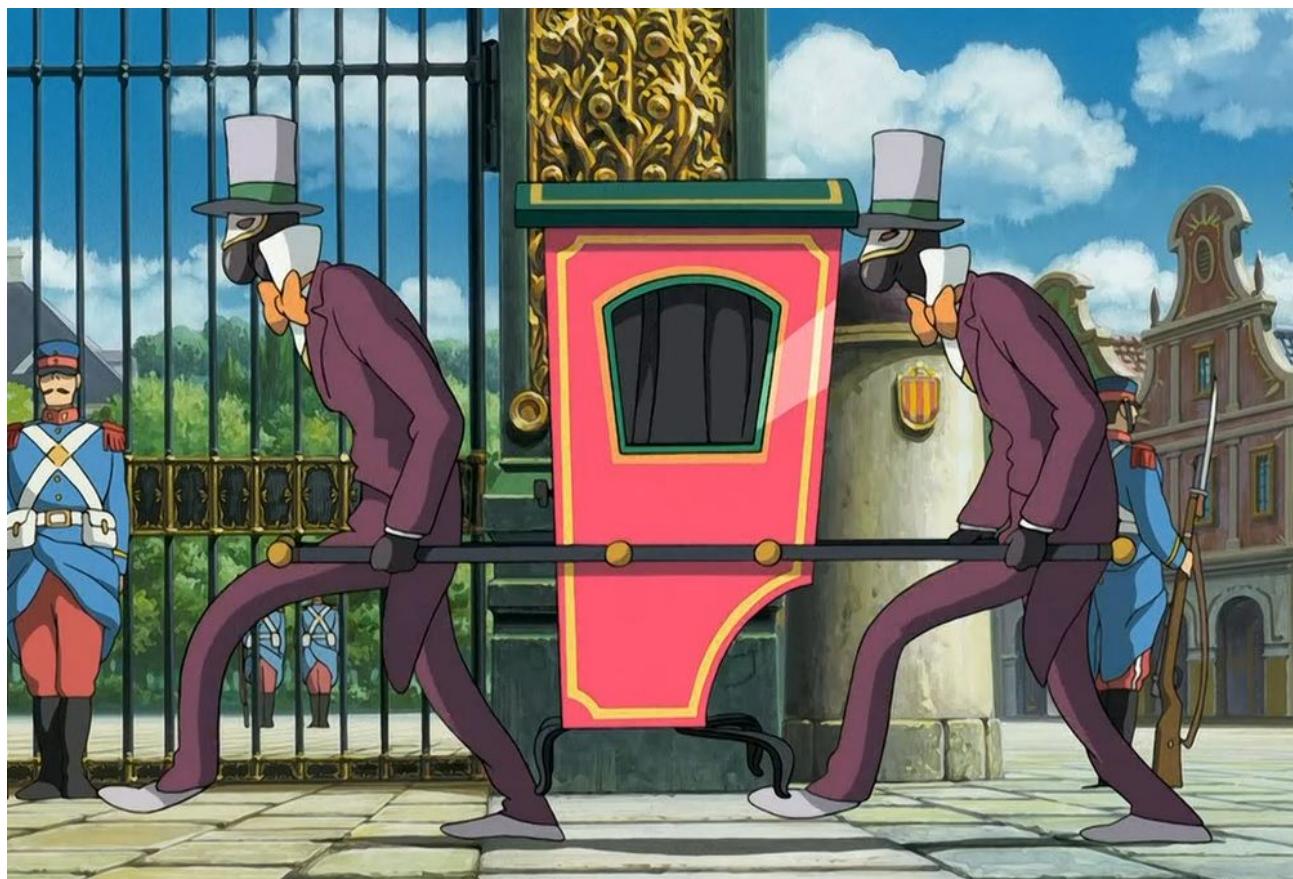
The other one is the ghost of Izzet, a mage formerly bound to the fire demon Mephistofer, until Evelyn defeated and cursed him to be a ghost bound to the castle forever. Seeing that Sophie has to fight Evelyn, he gladly decides to help her by teaching his old golem creation spells.

Sophie and Calcifer will sneak into Evelyn’s “Steam-Castle”, a factory where she is assembling an army of steamsoldiers, constructs made with cogs and pipes, powered by coal.

In order to save Howl, they will have to overcome enemies and solve riddles, using Sophie’s telekinesis, Calcifer’s fireballs and Izzet’s golems.¹

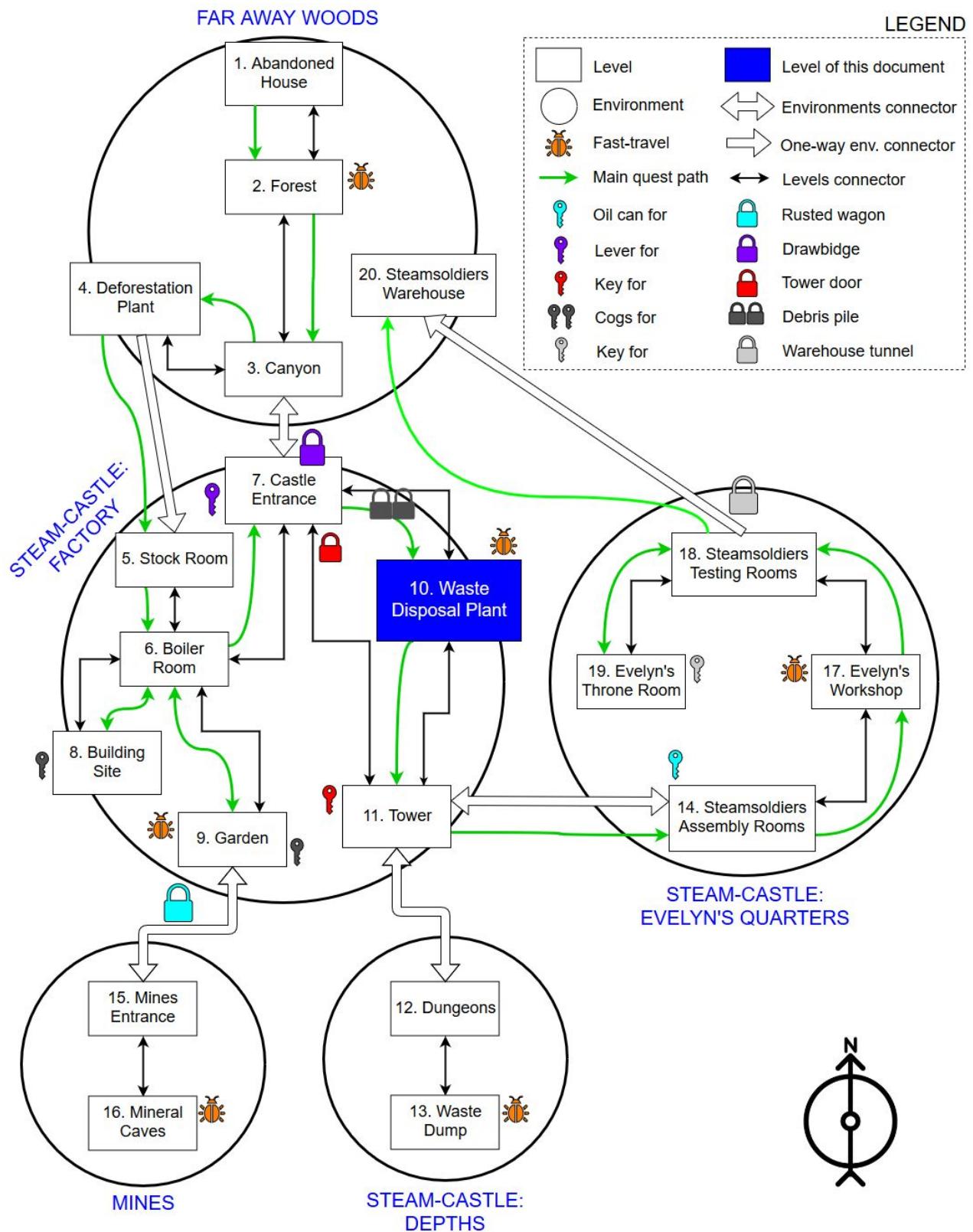
¹ see page 154 for the [complete story](#), but we recommend to check first the Characters chapter from page 135 for a better comprehension.

Game Design Section



Two henchmen, the standard enemies in Howl's Moving Castle: Deals & Demons

1 - World Diagram



An overview on the connections between the levels of the game

2 - Goal Outline

Far Away Woods

1. Abandoned House
 - 1.1. Explore the house (tutorial telekinesis)
 - 1.2. Find the map of the area
2. Forest
 - 2.1. Defeat a single group of henchmen (tutorial Fiery Staff)
3. Canyon
 - 3.1. Defeat a single group of henchmen (tutorial Fire Bolt)
 - 3.2. Find another way into the castle to avoid the raised drawbridge
4. Deforestation Plant
 - 4.1. Defeat the henchmen working around the plant (tutorial Fireball)
 - 4.2. Reach the canyon
 - 4.3. Solve a puzzle in order to reach the conveyor belt
 - 4.4. Sneak into the castle through the conveyor belt (go to 5)
20. Steamsoldiers Warehouse
 - 20.1. Escape from Evelyn and her army
 - 20.2. Defeat Evelyn in her monstrous form [END]

Steam-Castle: Factory

5. Stock Room
 - 5.1. Defeat a single group of henchmen
 - 5.2. Meet William (shop tutorial)
 - 5.3. Solve a puzzle in order to reach the boiler room
6. Boiler Room
 - 6.1. Meet Izzet
 - 6.2. Solve a puzzle
 - 6.3. Reach the castle entrance (gorilla golem tutorial)
7. Castle Entrance
 - 7.1. *Optional - Climb the ladders and lower the drawbridge by using the lever*
 - 7.2. Unfasten the debris sack (only if chains are stopped)
 - 7.3. Reach the external area by using the dropped debris pile (go to 10)
8. Building Site
 - 8.1. Solve multiple puzzles (spider golem tutorial)
 - 8.2. Defeat multiple groups of henchmen

- 8.3. Defeat Steamsoldier Prototype A (boss)
- 8.4. Block one of the two cogs moving the chains
9. Garden
 - 9.1. Solve multiple puzzles (mole golem tutorial)
 - 9.2. Defeat multiple groups of henchmen
 - 9.3. Defeat Steamsoldier Prototype B (boss)
 - 9.4. Block one of the two cogs moving the chains
 - 9.5. *Optional - Reach the mines (only by oiling the rusted wagon, go to 15)*

10. Waste Disposal Plant (Level of this document)

- 10.1. Defeat the henchmen into the waste disposal plant
- 10.2. Solve a puzzle to leave the building
- 10.3. Defeat the henchmen in the outside area
- 10.4. Solve a puzzle in the landslide area to pass through
- 10.5. Climb the rocky wall and defeat the henchmen at the end of the climb
- 10.6. Solve a puzzle to exit the tunnels and defeat the henchmen inside them
- 10.7. Climb the tower from outside through the scaffolding puzzle (frog golem tutorial)
- 10.8. Defeat Steamsoldier Prototype C (boss)
- 10.9. Enter the tower from the damaged balcony

11. Tower

- 11.1. Climb the ladders to Evelyn's Quarters (go to 14)
- 11.2. *Optional - Unlock the tower door, that leads to the castle entrance*
- 11.3. *Optional - Go down the ladders to the depths (go to 12)*

(Optional) Steam-Castle: Depths

12. Dungeons

- 12.1. Solve multiple puzzles
- 12.2. Defeat multiple groups of enemies

13. Waste Dump

- 13.1. Solve multiple puzzles
- 13.2. Defeat multiple groups of enemies
- 13.3. Defeat the Gluttonous Abomination (boss)
- 13.4. Leave the area (firefly special golem tutorial) [SIDE-QUEST END]

Steam-Castle: Evelyn's Quarters

14. Steamsoldiers Assembly Rooms
 - 14.1. Defeat multiple groups of henchmen
 - 14.2. Solve multiple puzzles
 - 14.3. Defeat Steamsoldier Final Prototype (boss)
 - 14.4. *Optional - Find the oil can*
17. Evelyn's Workshop
 - 17.1. Solve multiple puzzles
 - 17.2. Defeat Steamsoldier Prototype A + Prototype B + Prototype C (boss)
18. Steamsoldiers Testing Rooms
 - 18.1. Defeat multiple groups of henchmen and steamsoldiers
19. Evelyn's Throne Room
 - 19.1. Defeat Evelyn (final boss)
 - 19.2. Escape with Howl to the warehouse (go to 20)

(Optional) Mines

15. Mines Entrance
 - 15.1. Solve multiple puzzles
 - 15.2. Defeat multiple groups of enemies
16. Mineral Caves
 - 16.1. Sabotage the mines (puzzle)
 - 16.2. Collect the old hat from a special henchman (mini boss)
 - 16.3. Take the old hat to William [SIDE-QUEST END]

3 - Scope of the Game

Level	Estimated time	Percentage
1. Abandoned house	15 minutes	2%
2. Forest	15 minutes	2%
3. Canyon	15 minutes	2%
4. Deforestation plant	45 minutes	6%
5. Stock room	15 minutes	2%
6. Boiler room	15 minutes	2%
7. Castle entrance	15 minutes	2%
8. Building site	65 minutes	9%
9. Garden	65 minutes	9%
10. Waste disposal plant	65 minutes	9%
11. Tower	15 minutes	2%
12. Dungeon	35 minutes	5%
13. Waste dump	65 minutes	9%
14. Steamsoldiers assembly rooms	45 minutes	6%
15. Mines entrance	35 minutes	5%
16. Mineral caves	65 minutes	9%
17. Evelyn's workshop	30 minutes	4%
18. Steamsoldiers testing room	45 minutes	6%
19. Evelyn's Throne Room	30 minutes	4%
20. Steamsoldiers warehouse	35 minutes	5%
TOTAL SCOPE OF THE GAME	12 hours	100%

4 - Enemies Chart

Enemies / Level	Woodcutter	Worker	Miner	Cleaner	Firefighter	Butler	Guard	Engineer
1								
2	X							
3	X							
4	X	X						
5	X	X		X				
6								
7								
8*		X	X					
9*	X		X	X				
10*		X	X	X	X			
11								
12		X		X			X	
13*					X		X	
14*		X		X		X		X
15			X		X			
16		X	X				X	
17*					X	X	X	X
18				X	X	X	X	X
19*								
20*								

* = unique boss fight in addition to enemies in the chart

5 - Skill Chart

Skill / Level	Tele-kinesis	Fiery staff	Fire bolt	Fireball	Gorilla ²	Spider	Mole	Frog	Firefly
1	X								
2		X							X*
3		X	X						
4	X	X	X	X					
5		X	X	X					
6					X				
7					X	X	X		
8	X	X	X	X	X	X			
9	X	X	X	X	X		X		X*
10	X	X	X	X	X	X	X	X	X*
11	X								
12		X	X	X		X	X		
13	X	X	X	X	X		X	X	X
14	X	X	X	X	X	X			
15		X	X	X		X	X	X	
16	X	X	X	X	X		X	X	X*
17		X	X	X	X	X	X	X	X*
18		X	X	X	X	X			
19	X	X	X	X					
20		X	X	X					

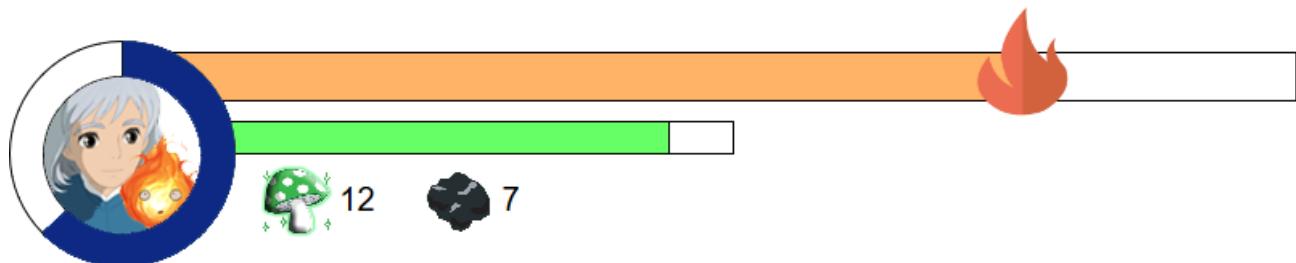
* = only after level 13

² "Gorilla", "Spider", "Mole", "Frog" and "Firefly" refer to a [particular mechanic](#) explained later at page 22

6 - Additional Mechanics

We added a few mechanics to show some game design ideas that we find interesting for this type of game, keeping the rules of Dungeons & Dragons 1st edition as they are. Also we had to specify some videogame-only mechanics not present in the GDD such as checkpoints and save files management in order to explain exhaustively some of our choices.

6.1 - Calcifer's mana bar and the HUD



The HUD that will be located to the top-left corner of the screen

Alongside Sophie and Calcifer's shared health bar (the green one in the picture above), players will see in the HUD also the mana bar (the orange one in the picture). "Mana" represent the intensity of Calcifer's flames, and it decreases when the fire demon uses his flames to perform these two types of actions:

- Attacking enemies: Calcifer will throw his own fire to the enemies, consuming himself.
- Powering Sophie's golems: while solving puzzles, players must use golems carefully, because the longer golems are kept animated, the more Calcifer consumes himself to power them (see paragraph 6.2 for more details).

Animating golems is needed to solve most of the puzzle in this game, so players must choose wisely which golem to use without wasting too much mana. In other words, the quicker players are able to solve puzzles, the more mana they will have available in combat (and vice versa).

Mana can be recovered by using consumables or by visiting a checkpoint (we will see everything later in this chapter). If the mana bar reaches the value of zero, Calcifer will be exhausted, and the player won't be able to perform any of the Calcifer-related actions until the bar is replenished.

Since mana is important in both puzzle and combat sections, it is given more relevance to its bar, which is thicker and occupies most of the screen in length. When players use something that consumes mana, the little burning flame located at the end of the bar "consumes" it and flows to the left alongside the bar.

The picture of Sophie and Calcifer inside the circle of the HUD changes accordingly to the status of the bars. Sophie's facial expression depends on the health bar, while Calcifer's depends on the mana bar. For example, in the image above both Sophie and Calcifer are in a good shape, because both bars are nearly full. So the picture in the HUD of both characters will change if bars will decrease under determined values.

The ring that surrounds this circle is like an ATB (Active Time Battle) bar that completely fills clockwise every 3 seconds, and it empties when the player uses an action in combat: an action can be an attack (see [Sophie's character sheet](#) at page 31) or the utilization of a consumable item. This because, as you will see later in the "Character and enemies sheets" chapter (page 30) 3 seconds of real-time combat are equivalent to one turn, and in one turn according to the GDD you can only attack one time or use an item one time. Once the ring is emptied it starts to fill itself again. So players will be able to move freely and continuously, but the action of their turn can be performed only if the ring is full (completely blue).

The mushroom and the coal piece icons in the HUD represent the most common consumables in the game (we will see them in a few pages), not only because of the rarity but also for the usage. The numbers alongside them are the corresponding quantity that players carry in their inventory. These icons are put directly in the HUD to let players immediately check the mushrooms and coal pieces left, so they don't have to break the flow of the gameplay by opening the inventory.

6.2 - Golems

In order to solve most of the puzzles of the game, Sophie needs to animate the golems below, which are unlocked by progressing in the main questline (except for the last one). The golem animation spell can be cast by Sophie infinite times per day thanks to a magic item that she carries (see [Sophie's character sheet](#) at page 31 for more details).

This spell can't be used in any encounter: Calcifer will stop Sophie casting this spell every time she will try to. If Calcifer is powering a golem, he can't attack, and in normal encounters there is no way to defeat the enemies but to directly hit them.

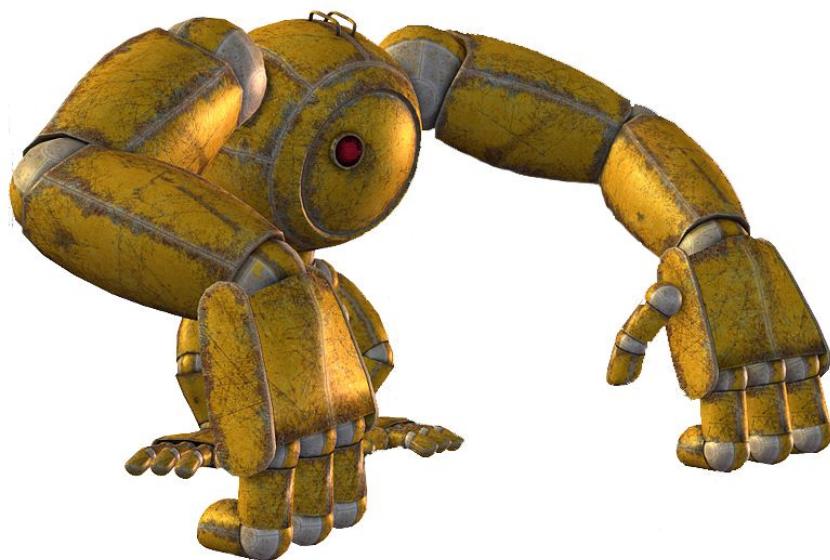
Calcifer: “What are you doing!? We are harmless inside that things!”

Instead, nearly every boss fight won't give Sophie any choice but to use golems: these fights are more like dynamic puzzles where players need to understand how to take advantage of the environment and find a way to win.

For each second passed inside a golem, the player consumes 1 mana point³. While Sophie is on a golem, she doesn't receive bonus or malus of any kind, so she keeps her character sheet as it is.

There is a total of five golems unlockable through the game:

Gorilla golem



Within this golem, Sophie is able to push or pull several heavy objects and to break through some doors (indicated in the legend of every area diagram as “gorilla golem action”). There's a cockpit in place of the handles between gorilla's shoulders. From there Sophie pilots the golem.

³ to be refined with playtesting

Spider golem



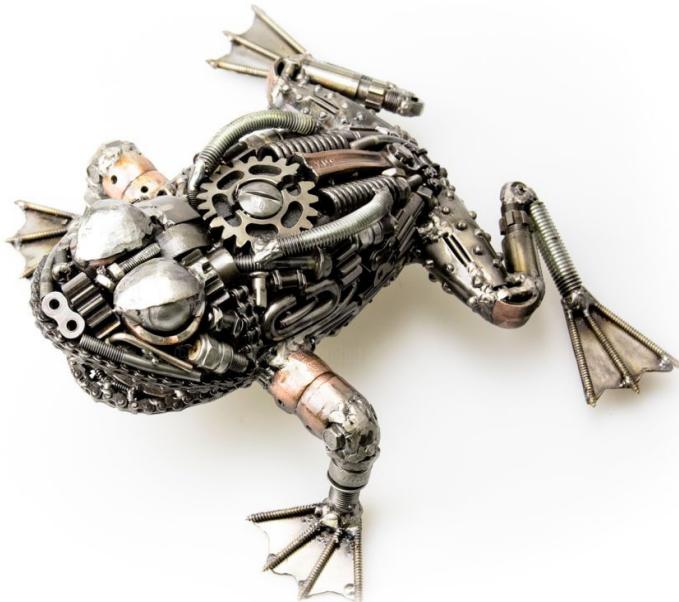
Within this golem, Sophie can climb on some specific types of wall (indicated in the legend of every area diagram as “spider golem action”). Its limbs are made by pipes, just like the picture, but there’s also a cockpit on its back where Sophie pilots the spider.

Mole golem



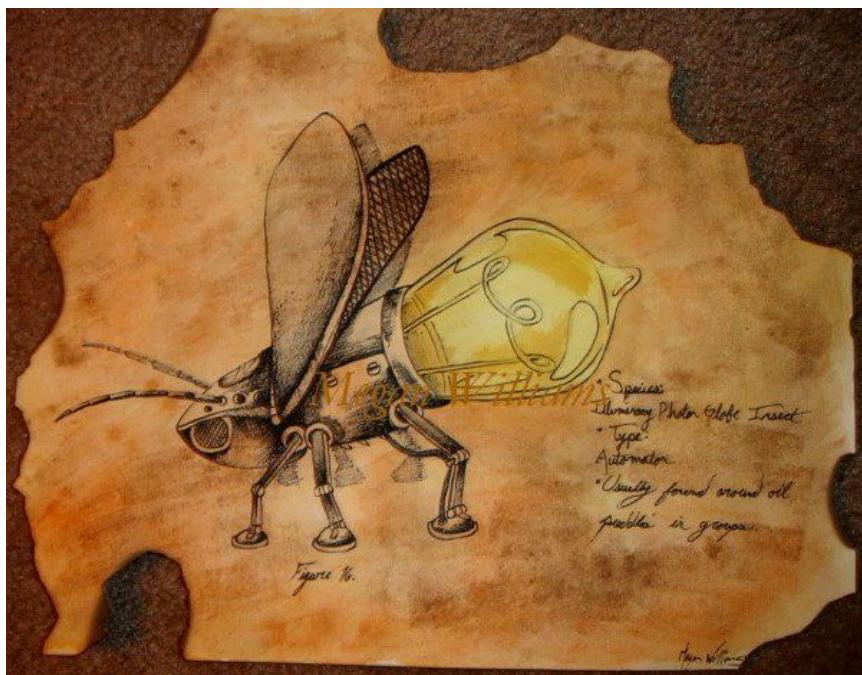
By using this golem, Sophie can dig under a specific kind of ground (indicated in the legend of every area diagram as “mole golem action”) and re-emerge only in the spots with the same type of ground. Between the two lanterns there’s the cockpit from where Sophie pilots the mole.

Frog golem



Within this golem, Sophie can jump vertically for 2 meters (2 squares) or horizontally for 5 meters. In the middle of its back there's the cockpit for Sophie.

Firefly golem



This is a special golem unlockable only by completing Izzet's subquest. By using it, Sophie can fast travel to the areas where there is enough maneuvering space for the golem to fly. These areas are indicated by the fast travel icons in the [world diagram](#) (page 13). Inside the head of this golem there's the cockpit from where Sophie pilots the firefly.

6.3 - Telekinesis

Golem animation is not the only spell that Sophie has to cast outside combat in order to solve puzzles. The other one is telekinesis which, since it has to fit well in the puzzles we designed, works differently from the homonymous spell in the GDD.

Telekinesis gives Sophie the possibility to float determined small objects in the air and move them where she wants to within a maximum distance of 7 meters from her.

Like the golem animation, this spell can be cast infinite times per day and can't be cast in any encounter (that isn't a boss fight, for the same reasons). If Sophie tries to float an object in a standard encounter, Calcifer will stop her since telekinesis is slow and the enemies can easily avoid objects that are simply floating. Also there is no standard encounter where using the telekinesis can be useful in any way.

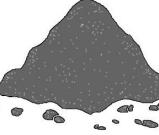
Calcifer: "Seriously? What's the point in doing that!?"

6.4 - Items and Crafting

6.4.1 - Consumable items

The player may collect four different types of consumables, each of them are useful in some way. Once collected, an item can't be collected in the same spot anymore, not even if the area is reloaded.

In case players need more of them, they can make purchases from William whenever they meet him. Throughout the game the available items of his shop will change (see [example](#) at page 108).

REFERENCE IMAGE	ITEM	DESCRIPTION	EFFECT
	Mushroom	An edible mushroom filled with magical power. Restores HP.	Restores 4d8 hit points (approximately 1/3 of the total).
	Coal	A piece of coal, the fuel used by Evelyn's steamsoldiers. Restores MP.	Restores 8d8 mana points (approximately 1/3 of the total).
	Ash	Alchemic ingredient, combine it with other items to obtain something new.	none
	Herb	Alchemic ingredient, combine it with other items to obtain something new.	none

Sophie can combine these items thanks to her studies as a witch to create potions and other useful stuff. In order to do that, players need to rest at a [checkpoint](#) (see page 29).

REFERENCE IMAGE	ITEM (INGREDIENTS)	DESCRIPTION	EFFECT
	Antidote (Coal + Mushroom)	One of the easiest potions to learn. Protects from poison.	Gives a +2 bonus to poison Saving Throws.
	Supercoal (Coal + Coal)	That's what you get when you stick together two pieces of coal. Fully restores MP.	Fully restores Mana Points.
	Mushroom Extract (Mushroom + Mushroom)	A concentrate of mushrooms' magical benefits. Fully restores HP.	Fully restores Hit Points.
	Firelighter (Coal + Herb)	Give it to an angry flame to make it even angrier. Raises damages.	Raises the damage of every Calcifer's attack by 1d8 (one eight-sided die) for one minute.
	Forest Protection (Mushroom + Herb)	Toughens the skin and quickens the senses. Raises AC.	Gives a +1 bonus to Sophie's Armor Class for one minute.
	Aimpowder (Coal + Ash)	Allows Calcifer to better direct his flames. Raises hit rolls.	Gives a +1 bonus to Sophie's hit rolls for one minute.
	Fog Of The Woods (Mushroom + Ash)	Makes your image distorted, becoming a difficult target for the enemies.	Gives a -2 malus to enemies' hit rolls for one minute.

6.4.2 - Initial inventory prediction

We predicted that the average player will start the “Waste Disposal Plant” level with the following inventory. The quantity of the items that can be picked up in the level is based on this prediction:

- hats (game currency): 12
- mushroom: 6
- coal: 4
- herb: 1
- ash: 2
- antidote: 1
- supercoal: 0
- mushroom extract: 1
- firelighter: 1
- forest protection: 1
- aimpowder: 0
- fog of the woods: 0

6.4.3 - Collectible items

The collectible items that can be found throughout the game are William’s 10 diary pages, which contain several information about his backstory and some clues about rooms of the steam-castle that Sophie may visit later. He wrote this diary before he went mad, and after that he started to make paper balls from its pages trying to hit the henchmen with them. By doing so he scattered his diary pages all over the castle.

Collecting them is optional, but is essential to understand his backstory and to unlock exclusive dialogues in the late game.

6.5 - Checkpoints and Game Saves



Sometimes, scattered around the levels players can find auxiliary boilers (like the one in the picture), which are used to provide energy to the Steam-Castle in case Evelyn's fire demons are absent for some reason. These boilers act as checkpoints.

In the "Waste Disposal Plant" level there are none of them, but there's one in the room immediately before the starting point of the level, in the "Castle Entrance" (see the [world diagram](#) at page 13) and another one right after the boss fight arena, in the "Tower" level.

While Sophie is at an auxiliary boiler, she can [craft items](#) (see page 26) and rest, fully recovering both hit points and mana points by cooking her supplies⁴ with Calcifer's flame, but in the meanwhile enemies will respawn, because defeated henchmen have been substituted.

Every time Sophie rests, she will spend a few minutes to draw a glyph on the ground, where she may teleport whenever it's needed. When a "game over" occurs, players will restart from the last boiler spot, but every item they used in their last attempt is lost.

We thought that the best solution to motivate the players to do their best and to have a right challenge in the resources management (mana and items) is to use the **auto-save** function without allowing the manual save. With this solution, players must use carefully their resources during their attempts to complete the level, because they can't manually create checkpoints whenever and wherever they want in order to try multiple times only a small fraction of the level⁵.

⁴ Everytime the player rests to an auxiliary boiler, there will be a brief cutscene where Sophie cooks her supplies and then eats. Supplies are not an element of the game and they appear only in these cutscenes.

⁵ Further playtest is needed to ensure that these mechanics are viable and not frustrating for the players.

7 - Character and enemies sheets

7.0 - General Informations

- One meter equals to one square of the level diagrams.
- One round equals to three seconds of real-time gameplay.
- In each round a character can move maximum by its movement value (in meters) and can perform maximum one action from the list in its sheet⁶.
- Although the attacks of every character corresponds to a weapon or a spell present in the GDD, ranges have been adapted to the dimensions of the areas.
- At the end of this chapter there's a summary table containing the stats of every enemy to compare them more easily. Also there are some calculations to examine the balance of enemies relatively to Sophie's stats.
- The strength of an enemy is measured by its loot, and in this game enemies drop hats when they are defeated, and then they dissolve.
- From now on we will use the following abbreviations with these respective meanings:
 - **d4, d6, d8, d20**: a die with 4, 6, 8, 20 sides.
 - **AC**: Armor Class, the higher is this value, the easier is to hit the character.
 - **HP**: Hit Points, the maximum amount of damage a character can take before being defeated.
 - **MP**: Mana points, the ones required by Calcifer's attacks.
 - **THAC0**: To Hit Armor Class 0, the roll with a d20 a character needs to hit a enemy with an AC value of 0.
 - **ST**: Saving Throws, the rolls with a d20 a character needs to avoid or reduce a specific negative effect, like poison.
 - **m/r**: meters per round
 - **P[event]**: probability that a given event occurs

⁶ Rules in the game design document for every action linked to movement (like hiding, withdrawal or retreat) are ignored because they are all actions that in this game will be performed in real-time. Also everything not related to the game such as alignment or known languages has been cut from character sheets.

7.1 - Sophie (Player)

SOPHIE HATTER

AC: 6 **HP**: 50 **Movement**: 12 **Treasure**: 12

CLASS: MAGIC USER **LEVEL**: 9

ABILITIES		SAVING THROWS	
STRENGTH	16 (+2)	POISON	11
INTELLIGENCE	14 (+1)	FIREBALL	11
WISDOM	8 (-1)	MAGIC ITEMS	
DEXTERITY	18 (+3)	FIERY STAFF	
CONSTITUTION	18 (+3)	HOWL'S GLOVES OF THE OBJECT MANIPULATION	
CHARISMA	12 (+0)		

SPECIAL SKILLS: MAGIC SPELLS, DEAL WITH CALCIFER

TO HIT AC	9	8	7	6	5	4	3	2	1	0
MELEE	4	5	6	7	8	9	10	11	12	13
MISSILE	3	4	5	6	7	8	9	10	11	12

ATTACK	TYPE	DAMAGE	MANA COST
FIERY STAFF	MELEE	4D8 + 2	0
FIRE BOLT	MISSILE	3D6 + 3	1
FIRE BALL	AREA SPELL	9D6	15

Sophie's sheet. Character Design by Verdiana Pagnano (www.vermesia.com)

Description

Sophie carries Calcifer in a wood staff (making it a “Fiery Staff”) on her right hand. She uses him like a catalyst to attack enemies with ranged attacks. If enemies are close, Sophie can also hit them with the Fiery Staff. As also explained later, Sophie has an exclusive parameter: the “mana”. Mana points (MP) are what the player needs to perform attacks with Calcifer. These attacks have a mana cost, because Calcifer consume his own fire in order to attack enemies.

Sheet details explanation

AC: $6 = 9$ (base AC) - 3 (from dexterity)

HP: $50 = 9d4$ (average of 23) + 27 (9 levels x 3 from constitution)

Abilities:

- Strength: $16 = 8$ (from dice) x 2 (from “deal with Calcifer” special skill)
- Intelligence: 14
- Wisdom: 8
- Dexterity: $18 = 9$ (from dice) x 2 (from “deal with Calcifer” special skill)
- Constitution: $18 = 9$ (from dice) x 2 (from “deal with Calcifer” special skill)
- Charisma: 12

ST⁷:

- Poison: 11 (from level 9 magic-user)
- Fireball⁸: $11 = 12$ (from level 9 magic-user) + 1 (wisdom adjustment) - 2 (from “deal with Calcifer” special skill)

Special Skills:

- Magic Spells (from magic-user)
- Deal with Calcifer⁹: doubles every physical skill (strength, dexterity and constitution), provides a +2 fire resistance (like the homonymous potion), substitutes magic spells with “Calcifer’s attacks”, which have a *mana* cost instead of a number of uses per day. Every “Calcifer attack” is a fire attack. The magic users have 100 *mana points* (MP) to spend per day. When the magic user rests, recovers all the MP

⁷ some of the saving throws in the GDD have been cut because are never used in this game.

⁸ based on Rods, Staves or Spells saving throw

⁹ this new special skill has the purpose to adjust Sophie’s HP and attacking spells to the type of game we want: a single-player adventure where a party composed only by a magic user can face multiple enemies.

Magic Items:

- Fiery Staff: Calcifer plus the staff where he's clinging make the Fiery Staff. It's considered as an intelligent sword (12 points in intelligence) with the extraordinary power of "extra damage" (damage of 4d8 instead of 1d8, see D&D Expert Rulebook page 60)
- Howl's gloves of the object manipulation¹⁰: the wearer can use known spells that influence objects such as telekinesis or debris animation at will without consuming any uses per day.

Calcifer's Attacks (details):

Attack	Type (range)	THAC0 ¹¹	Damage (average)	Target	Mana Cost ¹²
Fire Bolt ¹³	missile weapon (9 m.)	12	3d6+3 (13.5)	single	1 MP
Fire Ball	area spell (12 m.)	-	9d6 (31.5), successful ST halves the damage	everyone in a 6m radius	15 MP
Fiery Staff	melee weapon (1 m.)	13	4d8 +2 (20)	single	0 MP

¹⁰ this magic item, combined with "Deal With Calcifer" special skill, gives to Sophie only the possibility to cast telekinesis and to animate Izzet's golems, which are needed to solve puzzles and don't affect combat. For this reason both spells are explained in detail in the "[Additional Mechanics](#)" chapter from page 33.

¹¹ THAC0 for a level 9 magic-user is 15, the results shown in this column have the skills adjustments already applied

¹² to be refined in playtest

¹³ "fire bolt" is based on the spell magic missile (for a 9 level caster), with the difference that requires a hit roll

7.2 - Worker

WORKER

DESCRIPTION: WORKER HENCHMEN ARE ALL-ROUNDERS, USED FOR EVERY KIND OF WORK IN THE STEAM-CASTLE BUT THEY AREN'T EQUIPPED WITH ANYTHING SPECIFIC FOR A PARTICULAR JOB. THE ONLY THING THEY WEAR IS A SIMPLE HAT, AND USUALLY THEY CARRY SOME TOOLS TO WORK WITH. IF THEY SEE AN INTRUDER, THEY THROW THEM SCREWDRIVERS, NAILS OR WHATEVER THEY CARRY.

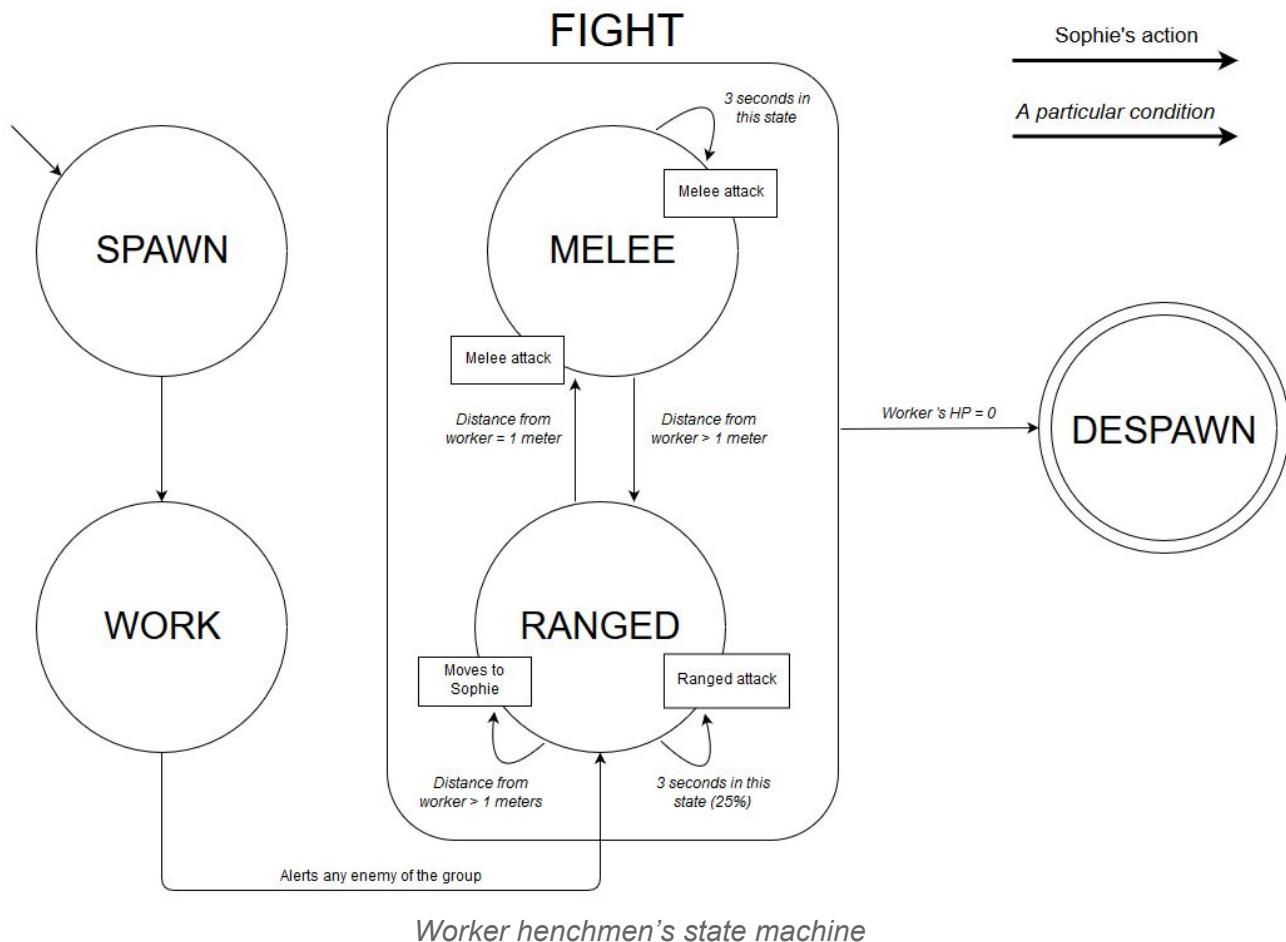
AC	HP	MOVEMENT	THAC0
9	6D8	12	21

ACTION	RANGE	DAMAGE
WRENCH (MELEE ATTACK)	1 METER	1D6
TOOLS (RANGED ATTACK)	6 METERS	1D4 *

EQUIPMENT	SAVING THROWS
-TUBA HAT	POISON: 8 FIREBALL: 12

*: THE SAME AMOUNT OF DAMAGE DEALT BY A MACE
**: THE SAME AMOUNT OF DAMAGE DEALT BY A SLING STONE

Worker henchmen's sheet. Character Design by Verdiana Pagnano (www.vermesia.com)



Worker henchman constantly pursues Sophie. In the moment when they come next to each other (1 meter distance) the henchman attacks her immediately with the melee attack, and attacks again every 3 seconds. If the distance from Sophie is between 2 and 6 meters, it attacks her with the ranged attack every 3 seconds with a probability of 0.25.

7.3 - Miner

MINER

DESCRIPTION: MINER HENCHMEN ARE USED TO DIG, COLLECT RESOURCES AND PERFORM EVERY OTHER KIND OF TASK IN ROCKY NARROW PLACES LIKE MINES AND TUNNELS. THEY'RE EQUIPPED WITH A MINER HELMET AND A PICKAXE.

ACTION	RANGE	DAMAGE
PICKAXE (MELEE ATTACK)	1 METER	1D8*
STONE (RANGED ATTACK)	6 METERS	1D4*

EQUIPMENT

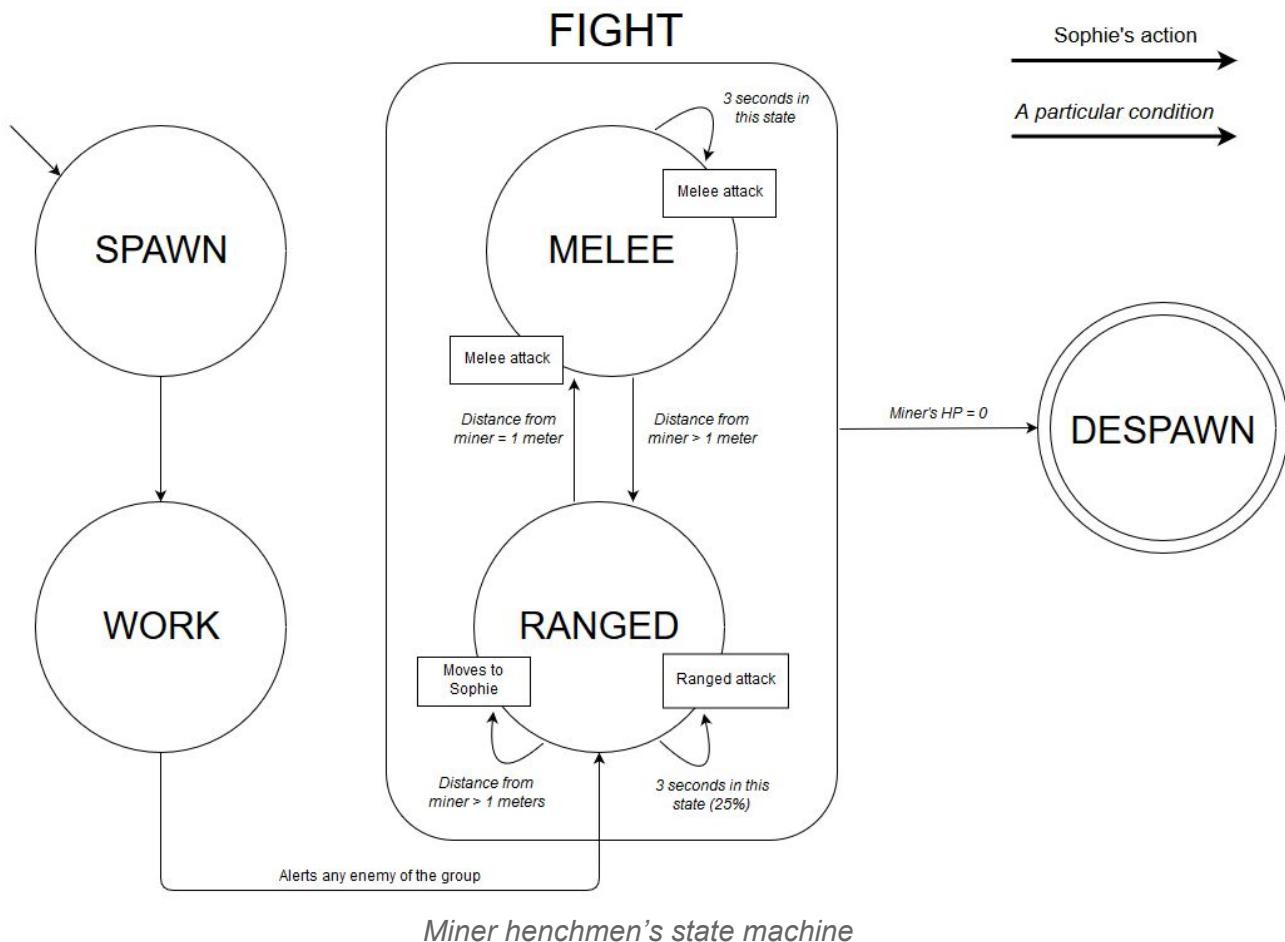
- MINER'S HELMET
(+5 ST AGAINST POISON)

SAVING THROWS

- POISON: 3
- FIREBALL: 12

*: THE SAME AMOUNT OF DAMAGE DEALT BY A BATTLE AXE
*: THE SAME AMOUNT OF DAMAGE DEALT BY A SLING STONE

Miner henchmen's sheet. Character Design by Verdiana Pagnano (www.vermesia.com)



Miner henchman constantly pursues Sophie. In the moment they come next to each other (1 meter distance) the henchman attacks her immediately with the melee attack, and attacks again every 3 seconds. If the distance from Sophie is between 2 and 6 meters, it attacks her with the ranged attack every 3 seconds with a probability of 0.25.

7.4 - Cleaner

CLEANER

DESCRIPTION: CLEANER HENCHMEN CAN BE FOUND KINDA EVERYWHERE BUT USUALLY IN SMALL QUANTITIES. THEY ALWAYS HAVE A BUCKET FULL OF WATER WITH THEM AND THEY ARE NOT AFRAID TO USE IT. THEY MIGHT SEEM HARMLESS, BUT THEIR LONG RANGED BUCKETFUL OF WATER COULD BE QUITE DANGEROUS FOR A FIRE DEMON.

ACTION	RANGE	DAMAGE
MOP (MELEE ATTACK)	1 METER	1D4 *
BUCKETFUL OF WATER (RANGED ATTACK)	6 METERS	1D6 + 1 **

EQUIPMENT

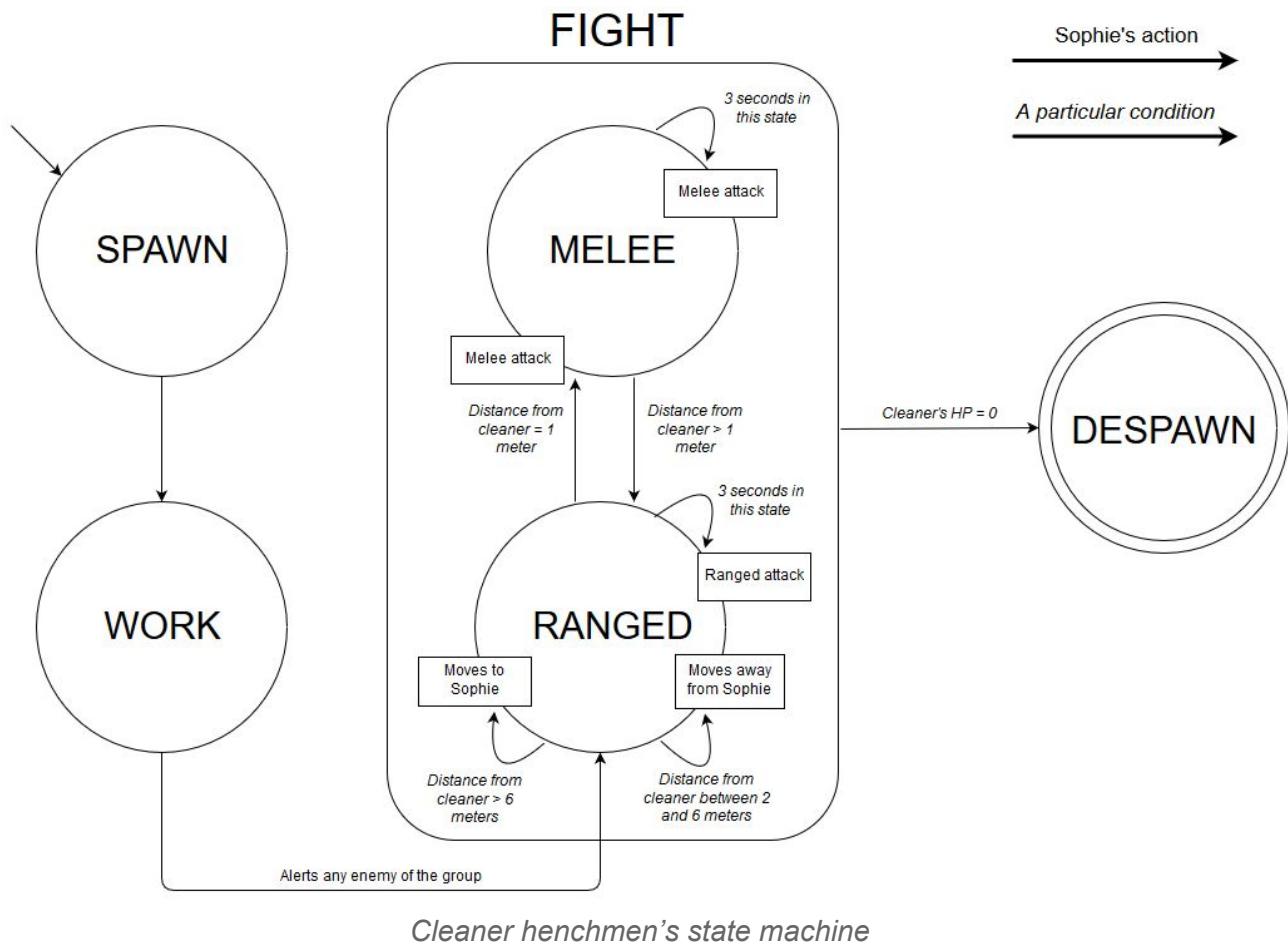
- BANDANA (+5 ST AGAINST FIREBALL)

SAVING THROWS

- POISON: 8
- FIREBALL: 7

*: THE SAME AMOUNT OF DAMAGE DEALT BY A CLUB
**: THE SAME AMOUNT OF DAMAGE DEALT BY A LEVEL 1 WIZARD'S MAGIC MISSLE

Cleaner henchmen's sheet. Character Design by Verdiana Pagnano (www.vermesia.com)



Cleaner henchman always tries to keep a distance of exactly 6 meters (the range of its stronger attack) between it and Sophie. So it will pursue her if it's too far away and it will withdraw if Sophie is too close. In the moment when they come next to each other (1 meter distance) the henchman attacks her immediately with the melee attack, and attacks again every 3 seconds. The henchman won't try to withdraw. If the distance from Sophie is between 2 and 6 meters, it attacks her with the ranged attack every 3 seconds.

7.5 - Firefighter

FIREFIGHTER

DESCRIPTION: FIREFIGHTER HENCHMEN ARE VERY FEW AND THEY'RE ONLY USED IN SITUATIONS LIKE STRUCTURAL COLLAPSES, FIRES (OBVIOUSLY) AND OTHER KIND OF EMERGENCIES. AN INTRUSION BY A WITCH AND A FIRE DEMON IS CLEARLY ONE OF THESE CASES. THEY'RE EQUIPPED WITH A STEAMPUNK-STYLE PORTABLE WATER-PUMP, VERY POWERFUL BUT NOT VERY ACCURATE ESPECIALLY INTO INDOOR AREAS RICH OF WALLS AND OBSTACLES.

AC	HP	MOVEMENT	THAC0
5	8D8	6	19

ACTION	RANGE	DAMAGE
TANK SPIN (MELEE ATTACK)	1 METER	1D6*
WATER JET (RANGED ATTACK)	9 METERS	3D6 + 3**

EQUIPMENT

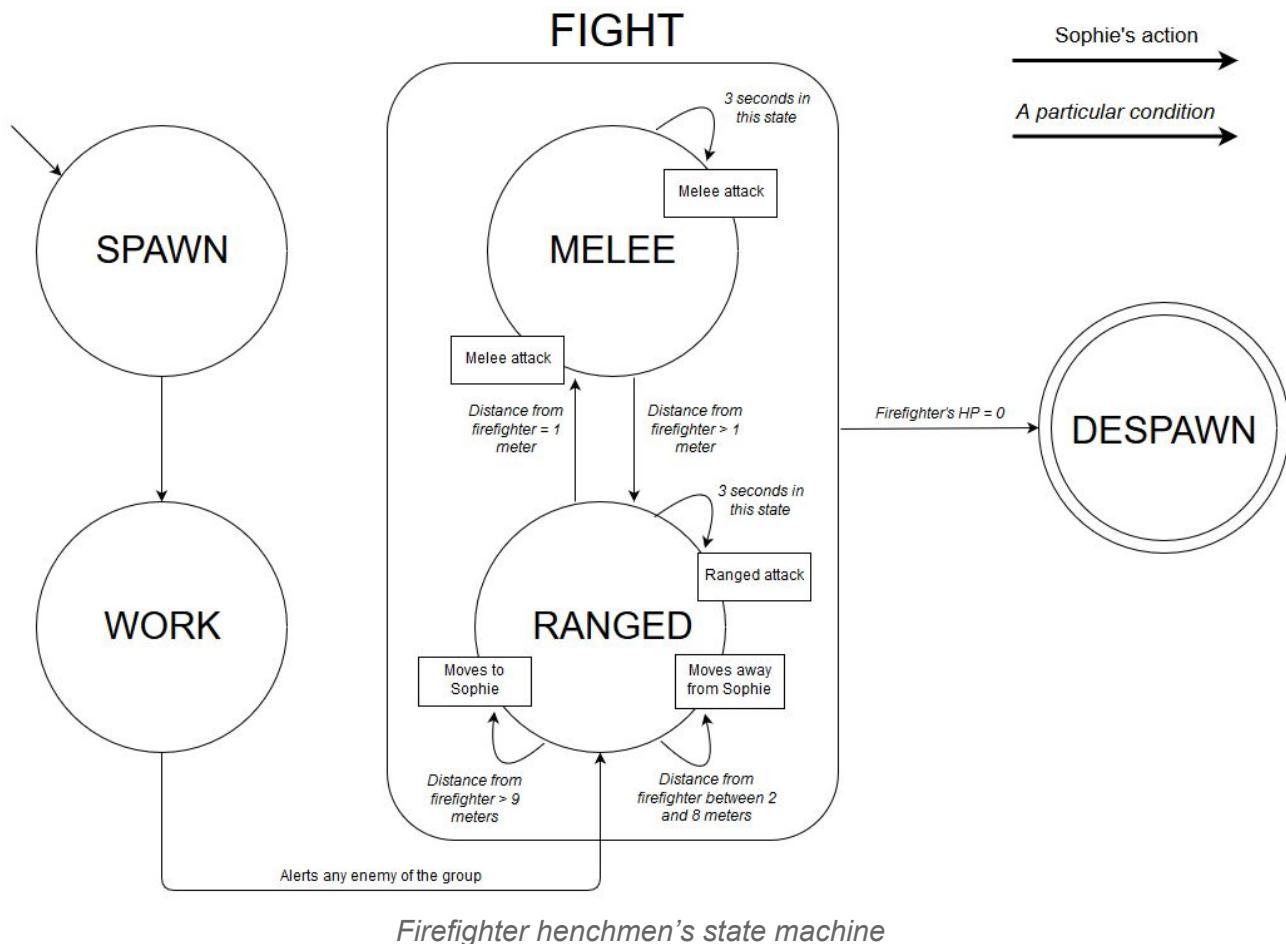
- FIREFIGHTER'S HELMET (+5 ST AGAINST FIREBALL AND POISON)

*: THE SAME AMOUNT OF DAMAGE DEALT BY A MACE
**: THE SAME AMOUNT OF DAMAGE DEALT BY A LEVEL 6 WIZARD'S MAGIC MISSLE

SAVING THROWS

- POISON: 3
- FIREBALL: 7

Firefighter henchmen's sheet. Character Design by Verdiana Pagnano (www.vermesia.com)



Firefighter henchman always tries to keep a distance of exactly 9 meters (the range of its stronger attack) between it and Sophie. So it will pursue her if it's too far away and it will withdraw if Sophie is too close. In the moment when they come next to each other (1 meter distance) the henchman attacks her immediately with the melee attack, and attacks again every 3 seconds. The henchman won't try to withdraw. If the distance from Sophie is between 2 and 9 meters, it attacks her with the ranged attack every 3 seconds.

7.6 - Foremen



Worker, Miner and Cleaner foremen. Character design by Verdiana Pagnano (www.vermesia.com)

Every large group of henchmen has a supervisor: they wear a specific dress (depending to their subjects' job), which gives them a +1 bonus to AC (like the shield in the GDD). A Miner Foreman for example wears an high-visibility jacket, while a Worker Foreman wears a coverall and a Cleaner Foreman wears a waterproof suit (see the picture above). A foreman has much more strength and dexterity than a normal henchman: both skill adjustments are superior by 2. They also wear proudly three hats instead of one to remark their superiority.

AC: -3 (-2 from dexterity and -1 from the dress)

HP: +3d8

Movement: remains the same

ST: remain the same

Equipment:

- foreman dress: +1 bonus to AC, it dissolves with the henchman when defeated
- number of hats is multiplied by 3, their effects don't sum.

Action	Range	Damage	THAC0
Melee attack	the same	+2	-2
Ranged attack	the same	+2	-2

States machine: remains the same

7.7 - Summary Table

Enemy	A C	HP	ST ¹⁴ poison	ST fireball	TH AC 0	m/r	Melee attack	Ranged attack
Worker	9	6d8 (27)	8	12	21	12	1d6 (3,5)	1d4 (2,5)
Miner	7	7d8 (31,5)	3	12	19	9	1d8 (4,5)	1d4 (2,5)
Cleaner	9	7d8 (31,5)	8	7	17	12	1d4 (2,5)	1d6+1 (4,5)
Firefighter	5	8d8 (36)	3	7	19	6	1d6 (3,5)	3d6+3 (13,5)
Worker Foreman	6	9d8 (40,5)	8	12	19	12	1d6+2 (5,5)	1d4+2 (4,5)
Miner Foreman	4	10d8 (45)	3	12	17	9	1d8+2 (6,5)	1d4+2 (4,5)
Cleaner Foreman	6	10d8 (45)	8	7	15	12	1d4+2 (4,5)	1d6+3 (6,5)

¹⁴ every henchmen have a base saving throw on poison of 8 and on fireball of 12 (as a level 1 halfling), in the table they are already modified due to their equipment.

7.8 - Statistics and Outcome Predictions

Enemies offensive threat: how long does it takes for a single enemy to defeat Sophie?

We see the easiest enemy (the worker) as a very weak henchman, which alone almost can't defeat Sophie. For every other enemy this must be a little bit easier, but it's important to remember that encounters contain a number of henchmen from 3 to 8, with very few exceptions.

- **Enemy: SophieHP / (AverageDamage x P[hitSophie]) = ??? turns**
- Worker: $50 / (3,5 \times 6/20) = 48$ turns
- Miner: $50 / (4,5 \times 8/20) = 32$ turns
- Cleaner: $50 / (4,5 \times 10/20) = 23$ turns
- Firefighter: $50 / (13,5 \times 8/20) = 10$ turns
- Worker Foreman: $50 / (5,5 \times 8/20) = 23$ turns
- Miner Foreman: $50 / (6,5 \times 10/20) = 16$ turns
- Cleaner Foreman: $50 / (6,5 \times 12/20) = 13$ turns

We chose the defensive values for each enemy starting from the probability we wanted for each of them to be defeated with a determined amount of attacks. This helped us to have an approximative base for the playtest, in which it we'll be possible to refine every enemies' values.

- **P[outcome] = P[Sophie to roll at least enemy's HP with an X quantity of dice¹⁵] * P[Sophie to hit the enemy] or P[Enemy to fail the ST]**
- Worker: the weakest enemy. We wanted it to be defeated with a P of 0.5 by a single fire ball or by a couple of fire bolts.
 - $P[\text{defeated with 1 fire ball}] = P[\text{at least 27 with } 9d6] * 11/20 = 0.83 * 0.55 = 0.46$
 - $P[\text{defeated with 2 fire bolts}] = P[\text{at least 27 with } 6d6+3] * 18/20 = 0.55 * 0.9 = 0.50$
- Miner: we wanted it to be tougher than the Worker against the attack that we think it is most likely to take.
 - $P[\text{defeated with 2 fire bolts}] = 0.12$
 - $P[\text{defeated with 3 fire bolts}] = 0.77$
- Cleaner: we wanted it to resist to at least one melee attack, also it must have been very resistant to fireballs as its peculiarity.
 - $P[\text{defeated with 1 staff attack}] = 0.003$
 - $P[\text{defeated with 2 staff attacks}] = 0.81$
 - $P[\text{defeated with 1 fire ball}] = 0.15$
 - $P[\text{defeated with 2 fire ball if both halved } (18d6 / 2)] = 0.5$
- Firefighter: we wanted it tougher than normal Workers and Cleaners in taking every kind of damage.
 - $P[\text{defeated with 3 fire bolts}] = 0.58$
 - $P[\text{defeated with 3 staff attacks}] = 0.65$

¹⁵ which corresponds to the damage given by one attack or by a set of attacks.

- $P[\text{defeated with 1 fire ball}] = 0.07$
- $P[\text{defeated with 2 fire balls if both halved}] = 0.22$
- Worker Foreman: we wanted it defensively slightly better than a Miner.
 - $P[\text{defeated with 3 fire bolts}] = 0.38$
 - $P[\text{defeated with 4 fire bolts}] = 0.74$
- Miner Foreman: it must resist for sure to one hit more than a normal Miner.
 - $P[\text{defeated with 3 fire bolts}] = 0.14$
 - $P[\text{defeated with 4 fire bolts}] = 0.62$
- Cleaner Foreman: we wanted it to resist one melee hit more than the Firefighter, so it must be defeated with a P o 0.25 by four staff attacks.
 - $P[\text{defeated with 3 staff attacks}] = 0.73$

7.9 - Sample Encounters

To build the encounters we made a couple of samples, played without a particularly optimized strategy to simulate what we think should be an average player's approach to the fights. We simulated them by playtesting on a [physical prototype](#) (see page 175) in order to quickly calibrate the quantity of enemies, their values and the overall difficulty of the encounter.

For a general way of determining those difficulties, we use the total quantity of hats (the game currency) carried by the group of enemy to defeat. Every henchman carries one hat (or more) with a value proportional to its strength:

henchman	loot	value
worker	tuba hat	1 hat
miner	miner's helmet	2 hats
cleaner	bandana	2 hats
firefighter	firefighter's helmet	4 hats
worker foreman	3x tuba hats	3 hats
miner foreman	3x miners's helmets	6 hats
cleaner foreman	3x bandanas	6 hats

This table should give a good approximation of the encounter difficulty for a player that reached this part of the game (the 10th level):

difficulty	loot	example
easy	8 hats	4 workers (1 hat each), 1 firefighter (2 hats)
average	12 hats	3 miners (2 hats each), 1 firefighter (4 hats)
hard	16 hats	1 cleaner foreman (6 hats), 3 miners (2 hats each), 2 cleaners (2 hats each)

7.9.1 - Example of hard encounter

Enemies: 3 miners, 2 cleaners, 1 cleaner foreman (16 hats)

sophie deals on average $13,5 * 18/20 = 12,15$ to the cleaner with the fire bolt

sophie deals on average $31,5 * 11/20 + 15,75 * 9/20 = 24,4$ to the miner with a fireball

sophie deals on average $31,5 * 6/20 + 15,75 * 14/20 = 20,5$ to cleaner (also foreman) with a fireball

sophie deals on average $20 * 14/20 = 14$ to cleaner foreman with the fiery staff

cleaner deals on average $4,5 * 10/20 = 2,25$ to sophie with its ranged attack

cleaner foreman deals on average $6,5 * 12/20 = 3,9$ to sophie with its ranged attack

cleaner foreman deals on average $2,5 * 12/20 = 1,5$ to sophie with its melee attack

miner deals on average $2,5 * 8/20 * 1/4 = 0,25$ to sophie with its ranged attack

miner deals on average $4,5 * 8/20 = 1,8$ to sophie with its melee attack

Sophie doesn't have much mana points to waste, so she will use the fireball only one time. Miners will pursue Sophie while sometimes they will also throw her their tools to deal a little damage. They're slower than her, but she must be careful to don't be cornered. Cleaners will try to keep a distance of 15 meters (the range of their long-distance attack) from her.

Turn	Sophie's actions	Enemies' damages	Enemies' actions	Sophie's damages
1	fire bolt on one cleaner, stay away from miners which are slower then her	C1: 12.5 others: 0	cleaners (Cs) and cleaner foreman (F) attack, miners (Ms) get closer	$2.25*2+3.9+0.25*3=9,15$
2	fireball on every miner and one unhurt cleaner	C1: 12.5 C2: 20.5 M1/2/3: 24.4 F: 0	Cs and F attack, Ms pursue sophie	$9.15+2.25*2+3.9+0.25*3=18.3$
3	fire bolt on C2, keeps escaping from every enemy	C1: 12.5 C2: dead M1/2/3: 24.4 F: 0	Cs and F attack, Ms pursue sophie	$18.3+2.25+3.9+0.25*3=25.2$
4	fire bolt on M1, keeps escaping but miners have cornered her	C1: 12.5 C2, M3: dead M1/2: 24.4 F: 0	C1 and F are out of range, Ms close sophie in a corner and attack melee	$25.2+1.8*2=28.8$
5	staff attack on M2, moves	C1: 12.5	C1 and F attack, M1	$28.8+2.25+3.$

	away from the last miner but cleaner henchman can hit her again.	C2, M2, M3: dead M1: 24.4 F: 0	pursues sophie	9+0.25= 35.2
6	moves to F, fire bolt on M1	C1: 12.5 C2, M1/2/3: dead F: 0	C1 and F attack while escaping from sophie	35.2+2.25+3.9= 41.35
7	moves to F, fire bolt on C1	C1: 25 C2, M1/2/3: dead F: 0	C1 and F attack while escaping from sophie	35.2+2.25+3.9= 47.5
8	sophie uses a mushroom to regain an average of 18 HP and corners F	C1: 25 C2, M1/2/3: dead F: 0	C1 attacks while escaping from sophie, F switches to melee	47.5-18+2.25+1.5= 33.25
9	staff attack on F	C1: 25 C2, M1/2/3: dead F: 14	C1 and F attack	33.25+2.25+1.5= 37
10	staff attack on F	C1: 25 C2, M1/2/3: dead F: 28	C1 and F attack	37+2.25+1.5= 40.75
11	staff attack on F	C1: 25 C2, M1/2/3: dead F: 42	C1 and F attack	40.75+2.25+1.5= 44.5
12	fire bolt on F, moves to C1	C1: 25 C2, M1/2/3, F: dead	C1 attack while escaping from sophie	44.5+2.25= 46.75
13	fire bolt on C1	all dead		46.75

7.9.2 - Example of easy encounter

Enemies: 4 workers, 1 firefighter (8 hats)

firefighter deals on average 5,4 damages ranged and 1,4 melee to sophie

worker deals on average 1,1 damages melee and 0,2 ranged to sophie

sophie deals on average 20,5 damages to the firefighter with the fireball

sophie deals sufficient damage to defeat an enemy with a approximate frequency of 1/2

sophie deals on average 12,15 damages to a worker with a fire bolt

sophie deals on average 13 damages to the firefighter with a staff attack

In this fight Sophie never uses any consumable item and decides to don't waste much mana. The area is full of coverage so she will try to hide from the firefighter and its powerful ranged attack. Workers will pursue Sophie and the firefighter will avoid the obstacles to have visual on her.

Turn	Sophie's actions	Enemies damages	Enemies' actions	Sophie's damages
1	fire bolt to a worker, she keeps the distance from workers	W1: 12.15	firefighter (F) attacks at sight, workers (Ws) move while throwing their tools	$0+5.4+0.2*5=6.4$
2	fire bolt to a second worker	W1/2: 12.15	F doesn't have visual on Sophie, Ws move and one also attacks from distance	$6.4+0.2*5=7.4$
3	fireball, sophie is cornered	W1/3: dead W2: 12.15 W4: 15.75 F: 20.5	F attacks, Ws attack	$7.4+5.4+1.1+1.1=15$
4	moves to the firefighter while attacks one worker with the staff	W1/2/3: dead W4: 15.75 F: 20.5	F doesn't have visual on Sophie, W attacks	$15+1.1=16.1$
5	moves to the firefighter while attacks the last worker with the staff	Ws: all dead F: 20.5	F attacks	$16.1+5.4=21.5$
6	reaches the the firefighter and attacks it with the staff	Ws: all dead F: 33.5	F switches to melee and attacks	$21.5+1.4=22.9$

7.9.3 - Final Considerations

The main problem we met in the calibration of Sophie's and enemies' values was to make Sophie (who fights without allies) survive long enough against groups with an average of 6 enemies. Giving to the weakest enemy the almost minimal damage to its weaker attack (1d4) and giving consequently bigger damages to enemies stronger than him, forced us to lower their probability to hit Sophie. But since we couldn't lower this probability below a reasonable amount (30% for the weakest henchman) we needed to raise Sophie's health (see her [character sheet](#) at page 31) by raising her constitution value far above the standard expected from a magic-user character. So we used the "Deal With Calcifer" special skill to also double Sophie's constitution. In addition, the skill doubles her strength and dexterity because we needed to give her more possibilities to hit enemies with every kind of attack (both ranged and melee) while keeping a reasonable base value in both abilities for a magic-user. This because, since Sophie is the only playable character, we wanted to make her as versatile as possible, to match more than one play-style.

7.10 - Steamsoldier Prototype C (Level Boss)

STEAMSOLDIER PROTOTYPE C

DESCRIPTION: THIS PROTOTYPE OF STEAMSOLDIER WAS DISCARDED BY EVELYN, WHO CONSIDERS IT A FAILURE. NONETHELESS THIS KILLING MACHINE ROAMS FREELY ON THE UPPER AREAS OF THE CASTLE. IT APPEARS TO SOPHIE AND CALCIFER WHEN THEY'RE ABOUT TO GET INSIDE THE TOWER FROM THE SCAFFOLDING AND IT ATTACKS THEM IMMEDIATELY. SUCH AS ANY OTHER STEAMSOLDIER, IT DOESN'T TAKE ANY DAMAGE FROM FIRE AND POISON.

AC	HP	MOVEMENT	THAC0	SAVING THROWS
7	22D8	9	12	POISON: IMMUNITY FIREBALL: IMMUNITY

ACTION	RANGE	DAMAGE
METAL CLAW (MELEE ATTACK)	1 METER	1D10*
METAL BULLET (RANGED ATTACK)	27 METERS	1D6+1**

SPECIAL SKILLS: IMMUNITY TO POISON, IMMUNITY TO FIRE

*: THE SAME AMOUNT OF DAMAGE DEALT BY A TWO-HANDED SWORD
**: THE SAME AMOUNT OF DAMAGE DEALT BY A LEVEL 1 WIZARD'S MAGIC MISSLE

Stemsoldier Prototype C sheet. Character Design by Verdiana Pagnano (www.vermesia.com)

This character sheet was located here because this enemy fights alone, so it wasn't included in any of the previous paragraphs containing predictions and calculations. Its attacks' damages were calibrated in order to defeat Sophie with a little bit more than 10 hit rolls:

Turns to defeat Sophie = Sophie's HP / (avg. damage x P[to hit AC 6]) = 50 / (5 x 15/20) = 13

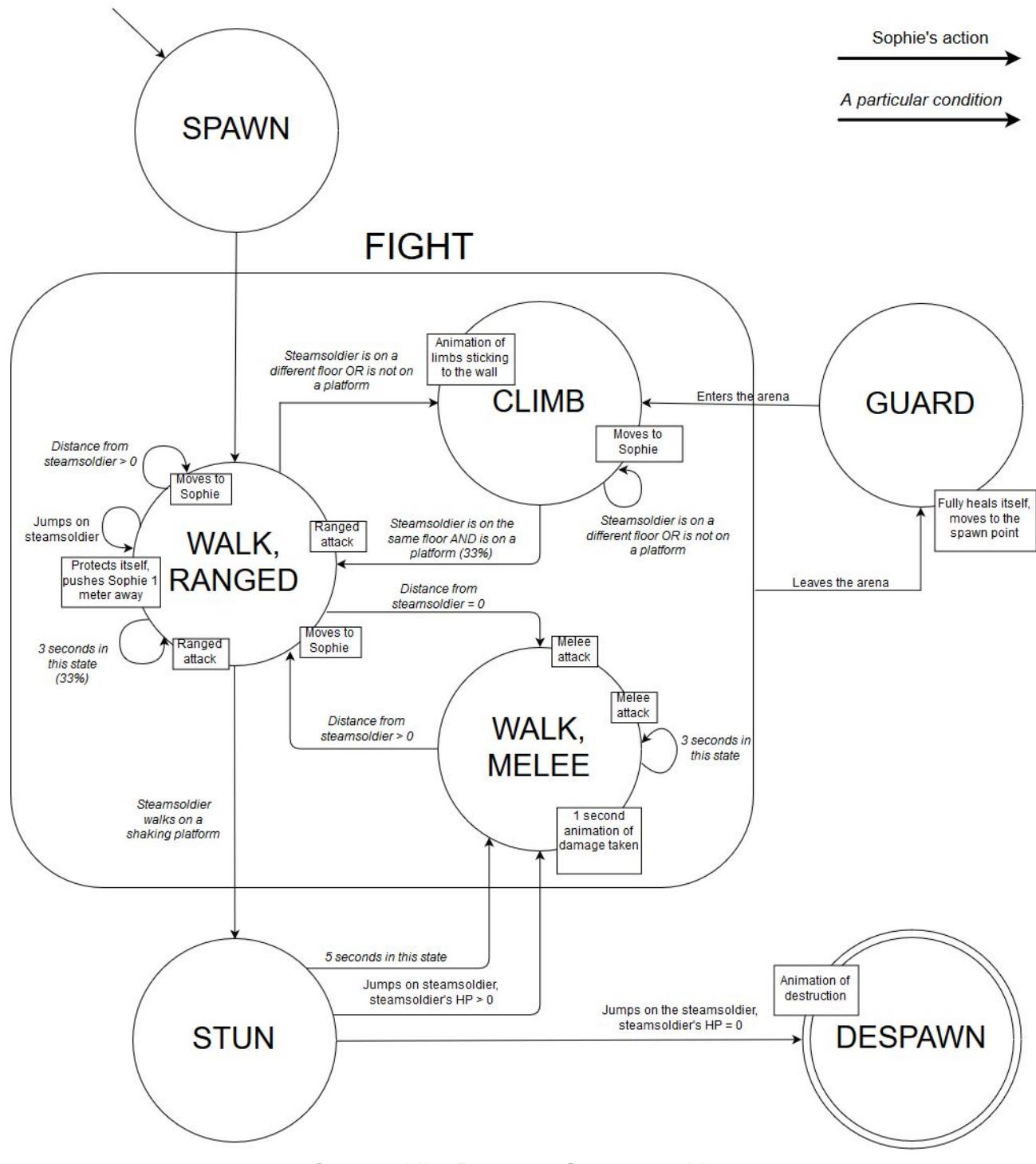
The picture in the next page shows the behaviour of the steamsoldier:

it pursues Sophie while she's in its arena (see the [level diagram](#) at page 57). If she's not, it returns to its spawn point, heals itself and waits for her. If Sophie is on a different floor it pursues her by climbing the wall. Right after it finishes to climb (so it's on her same floor), it attacks her immediately with the ranged attack and then it attacks again every 3 seconds.

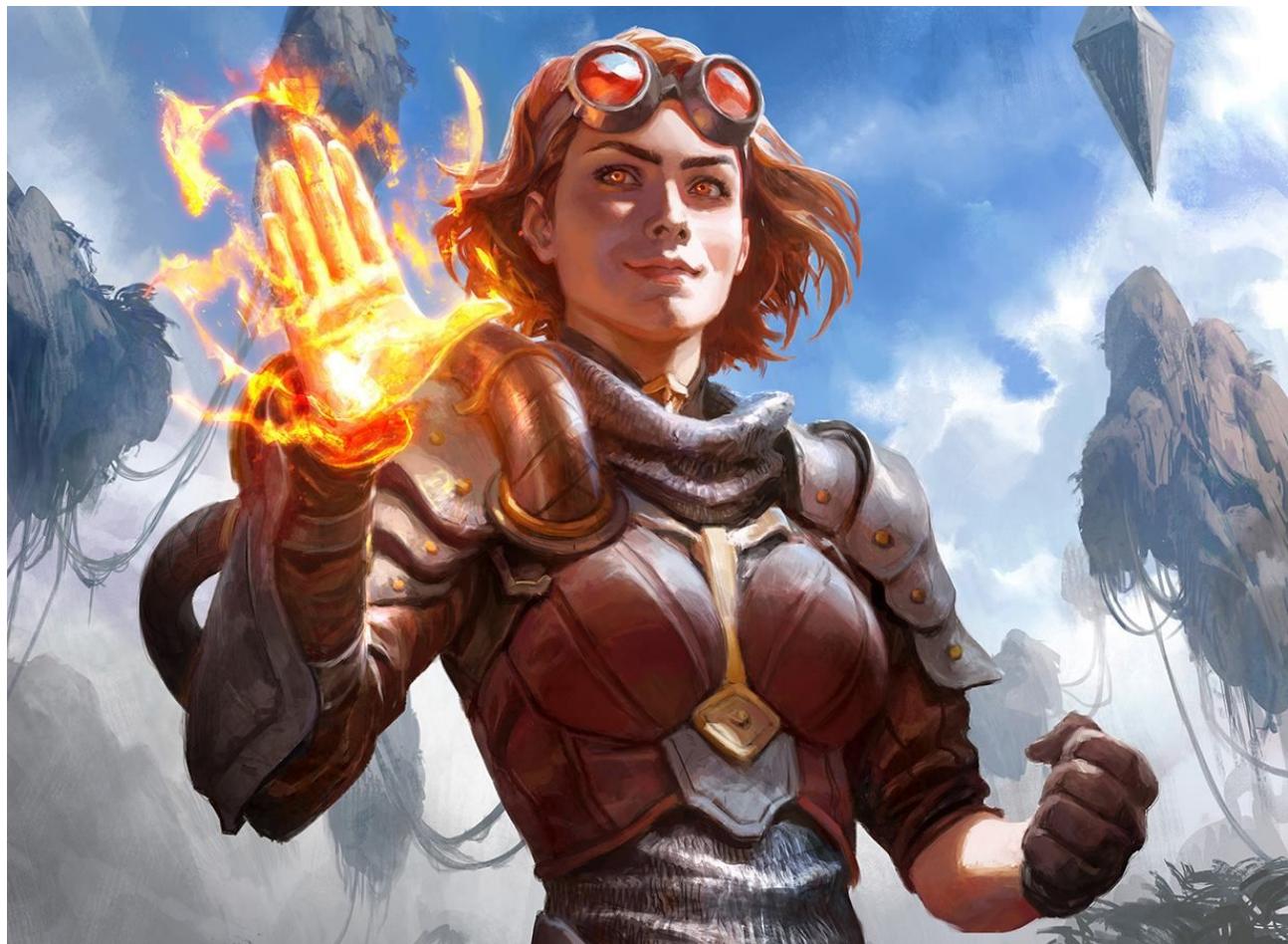
If it gets very close to her it immediately uses the melee attack and then it uses it again every 3 seconds.

The steamsoldier can be stunned by baiting it onto a shaking platform. Then, while it's stunned, it can be damaged by jumping on its head.

If Sophie tries to jump on the steamsoldier while it's not stunned, it will protect itself and will push away Sophie.



Level Design Section



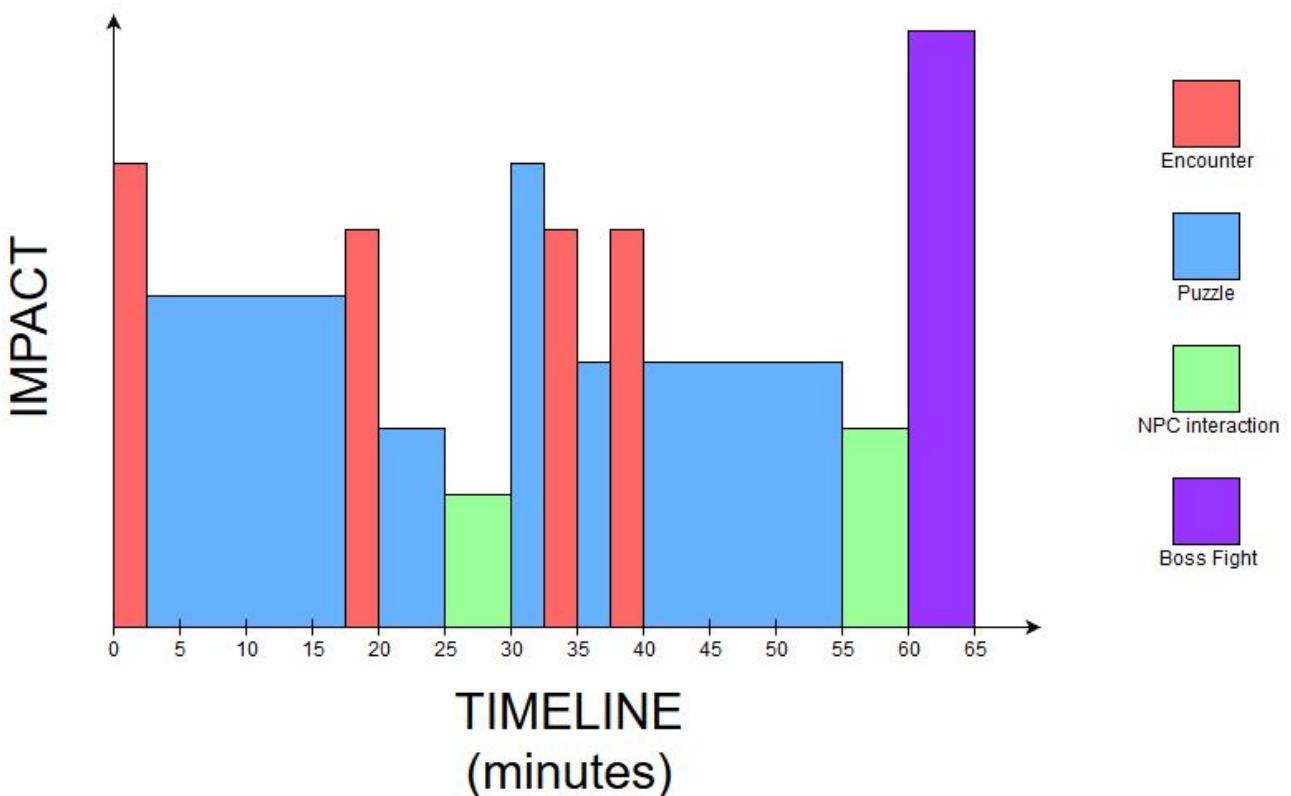
*Evelyn Wilkinson, the villain of Howl's Moving Castle: Deals & Demons
(picture from Magic: The Gathering)*

1 - Scope of the Level

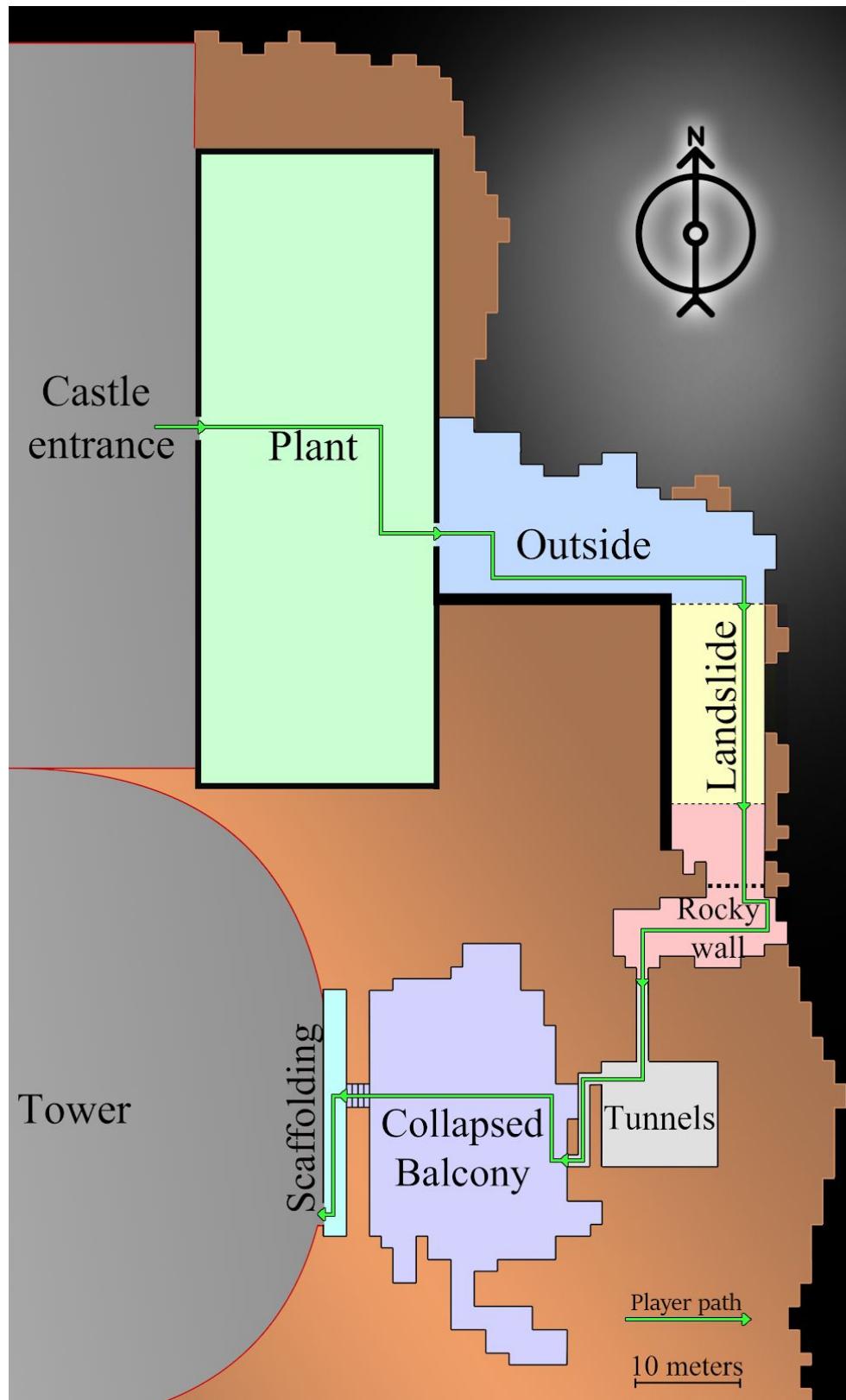
1st area (encounter + puzzles)	17 minutes
2nd area (encounter + puzzles)	13 minutes
1st npc interactions	3 minutes
3rd area (encounters + puzzle)	22 minutes
4th area (2nd npc interactions + puzzle)	5 minutes
Boss fight	5 minutes
Total scope of the level	65 minutes
Total scope of the game	12 hours
Scope of the level compared to the whole game	9%

2 - Event Diagram

This is a graphical summary of every content of the level described in the next chapters. Events are put in chronological order, the colour of the column represent the type of event, the width it's the duration of the event and the height is its impact value.

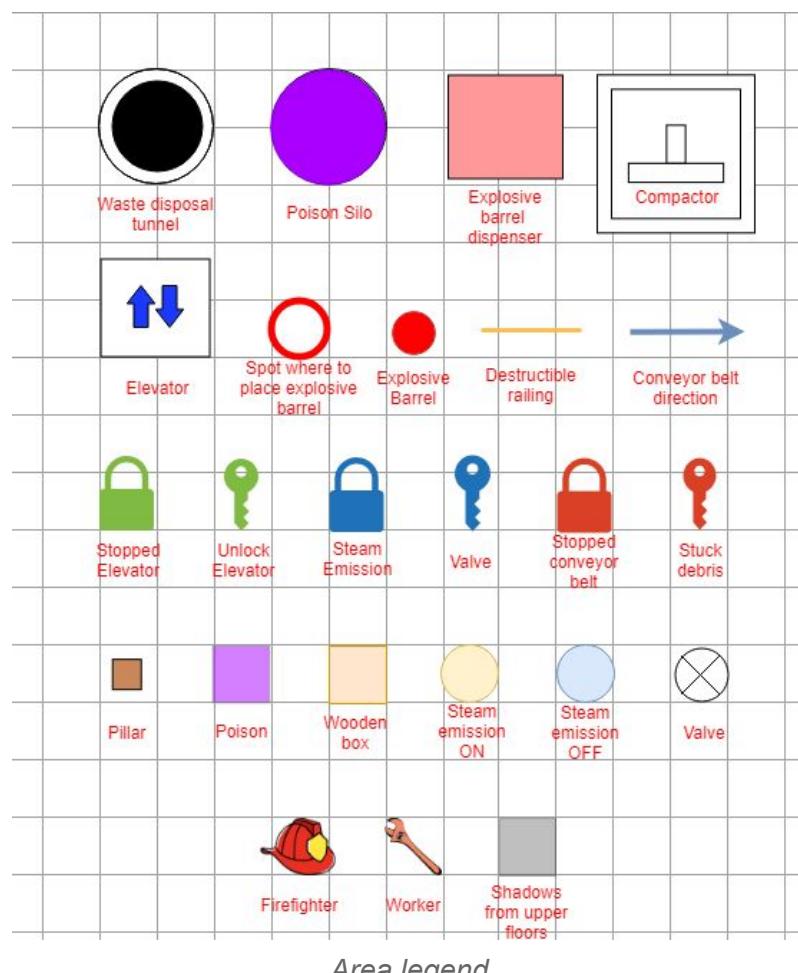
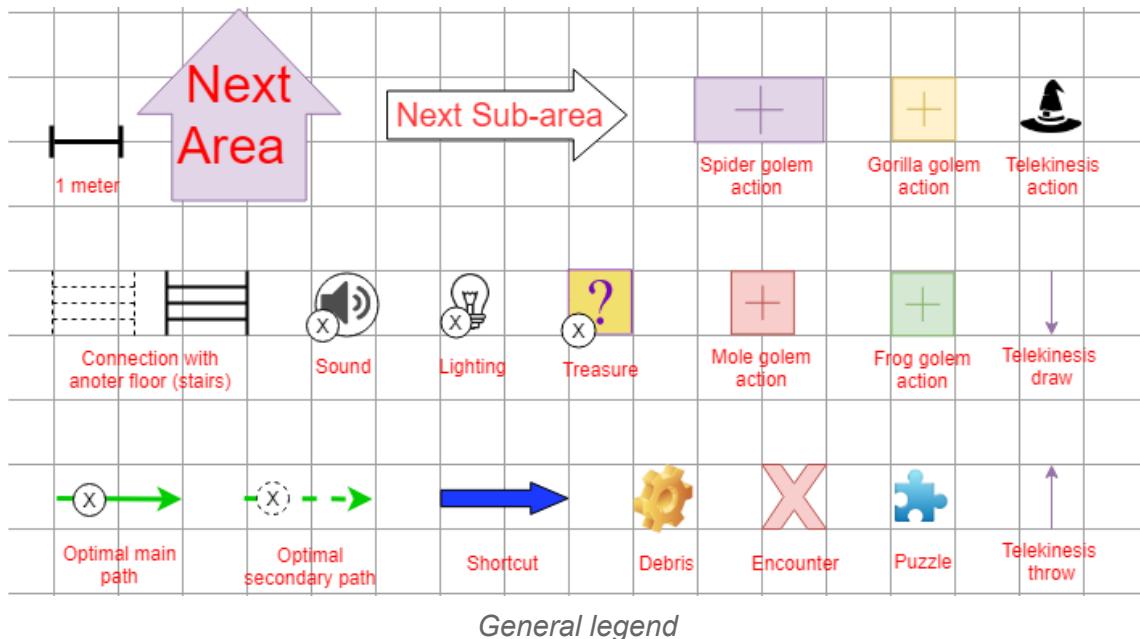


3 - Level Diagram

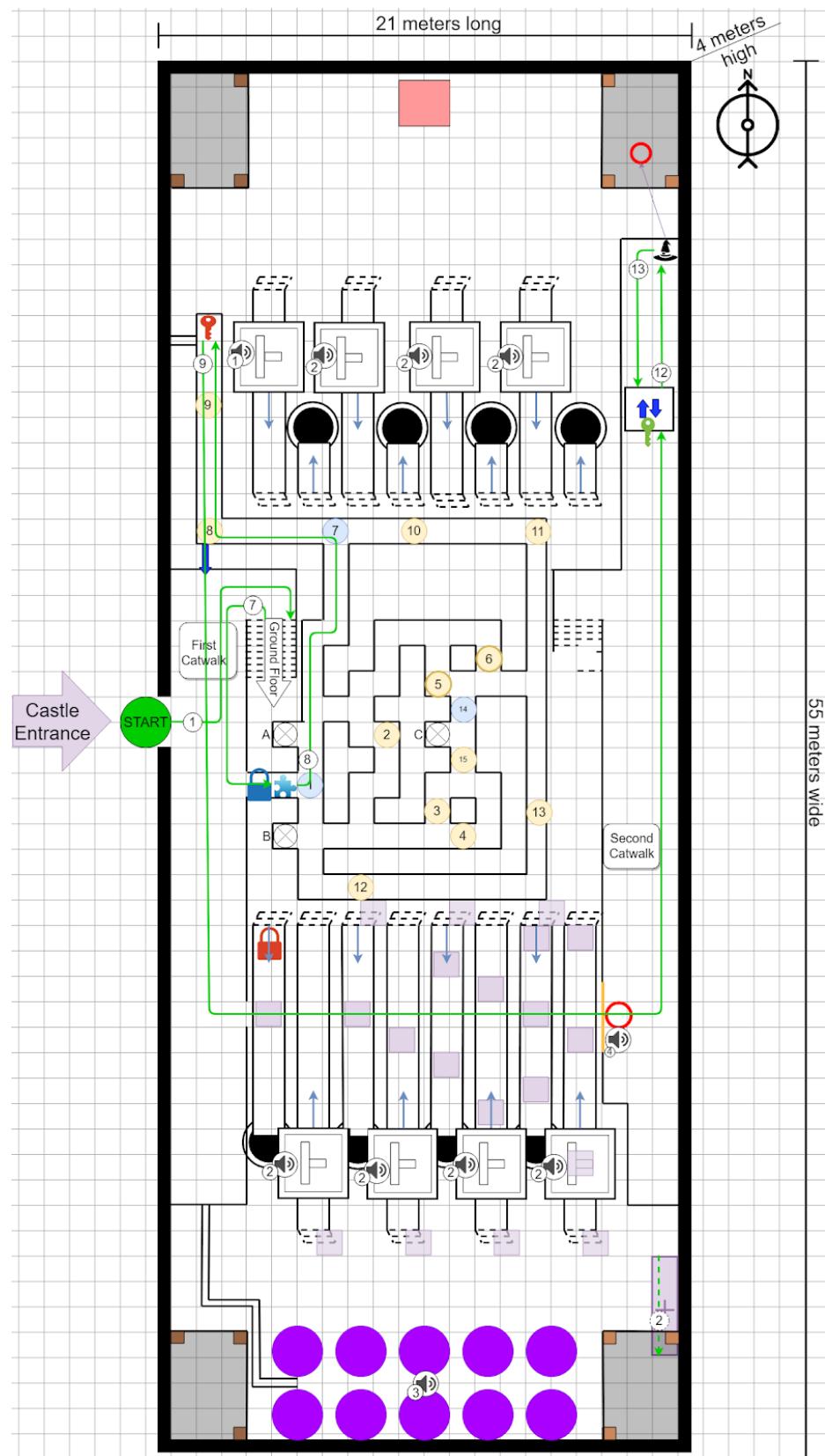


A map containing every area of the level, plus the level before and after it (in grey)

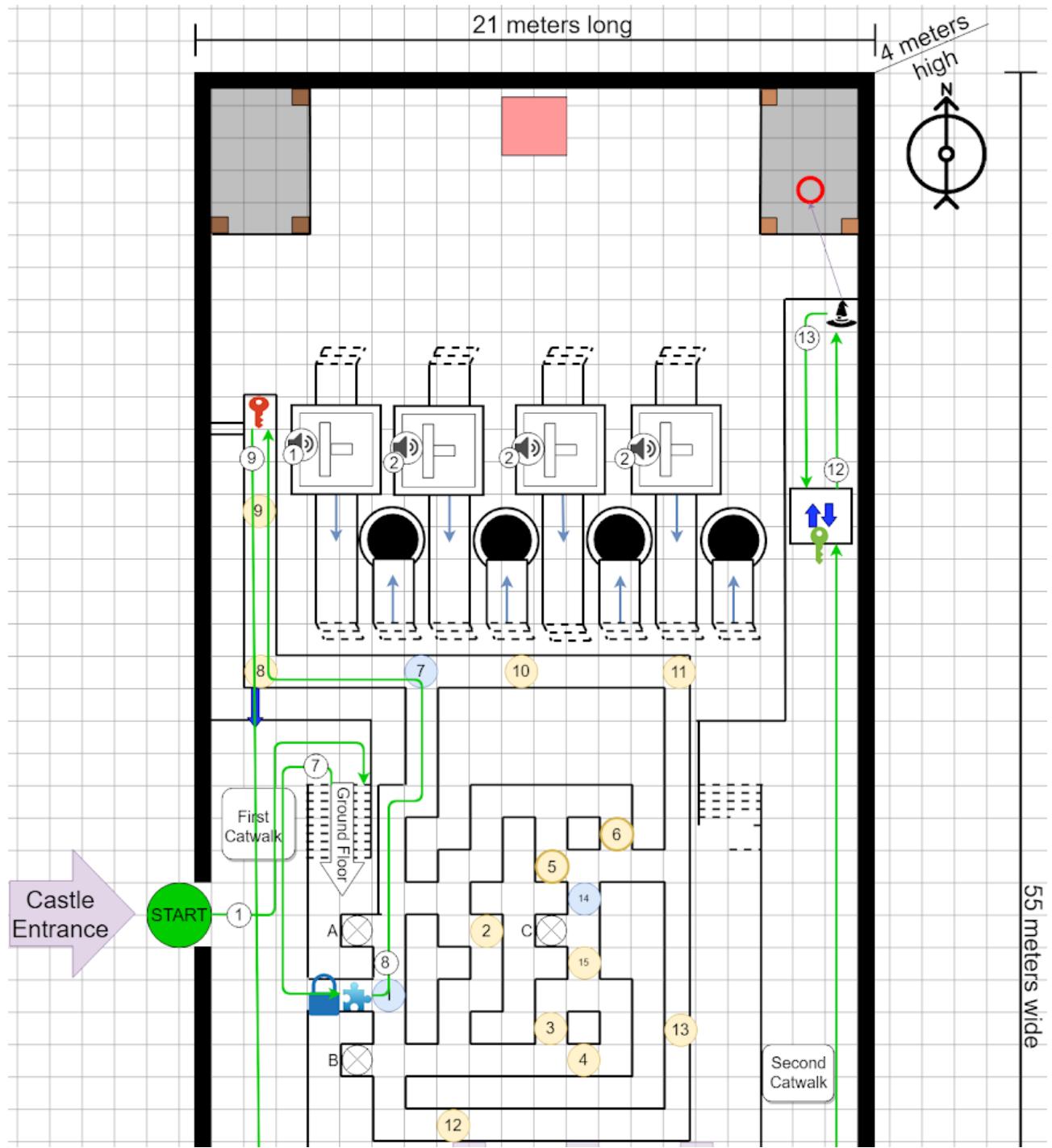
3.1 - Plant



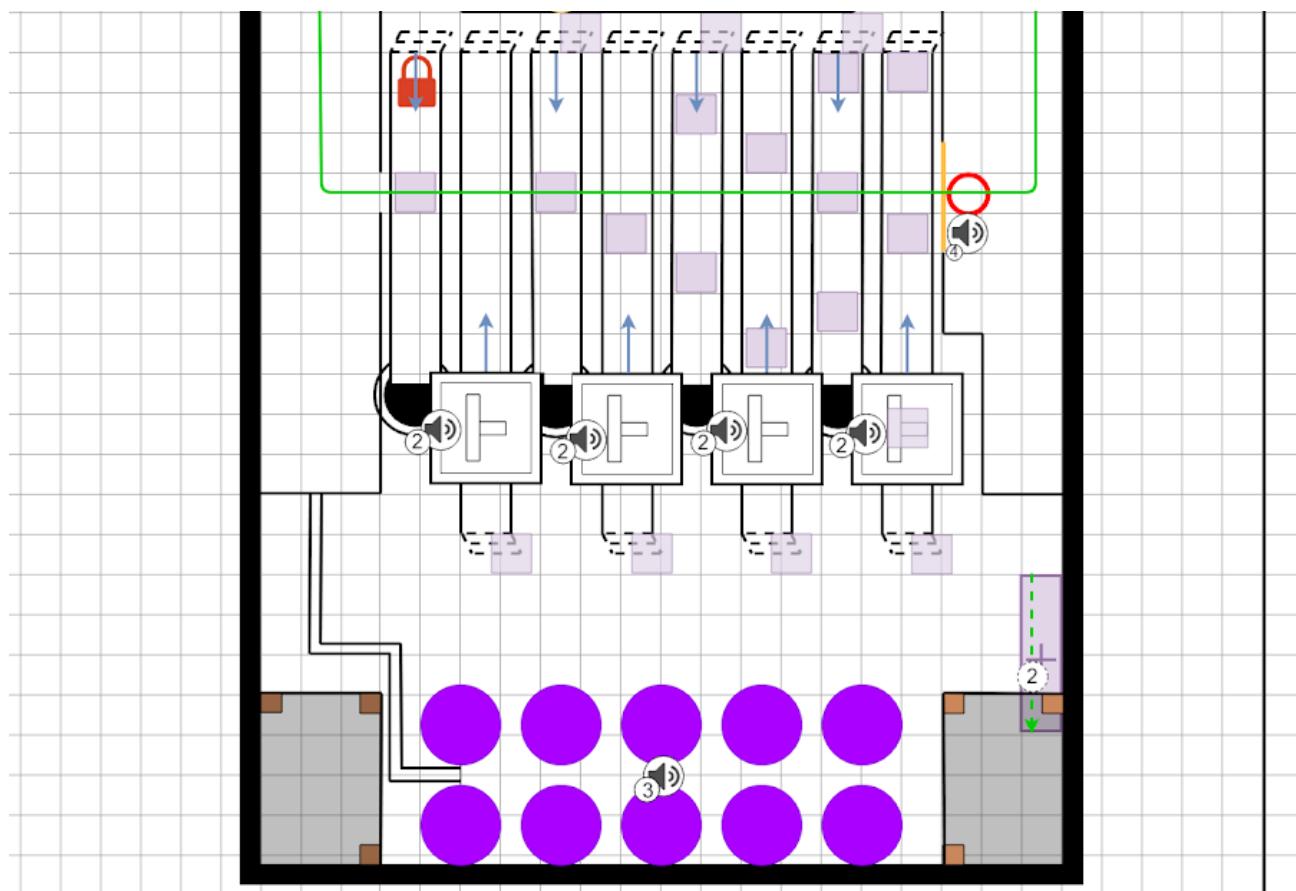
3.1.1 - Plant (First Floor)



Complete view of the Plant First Floor

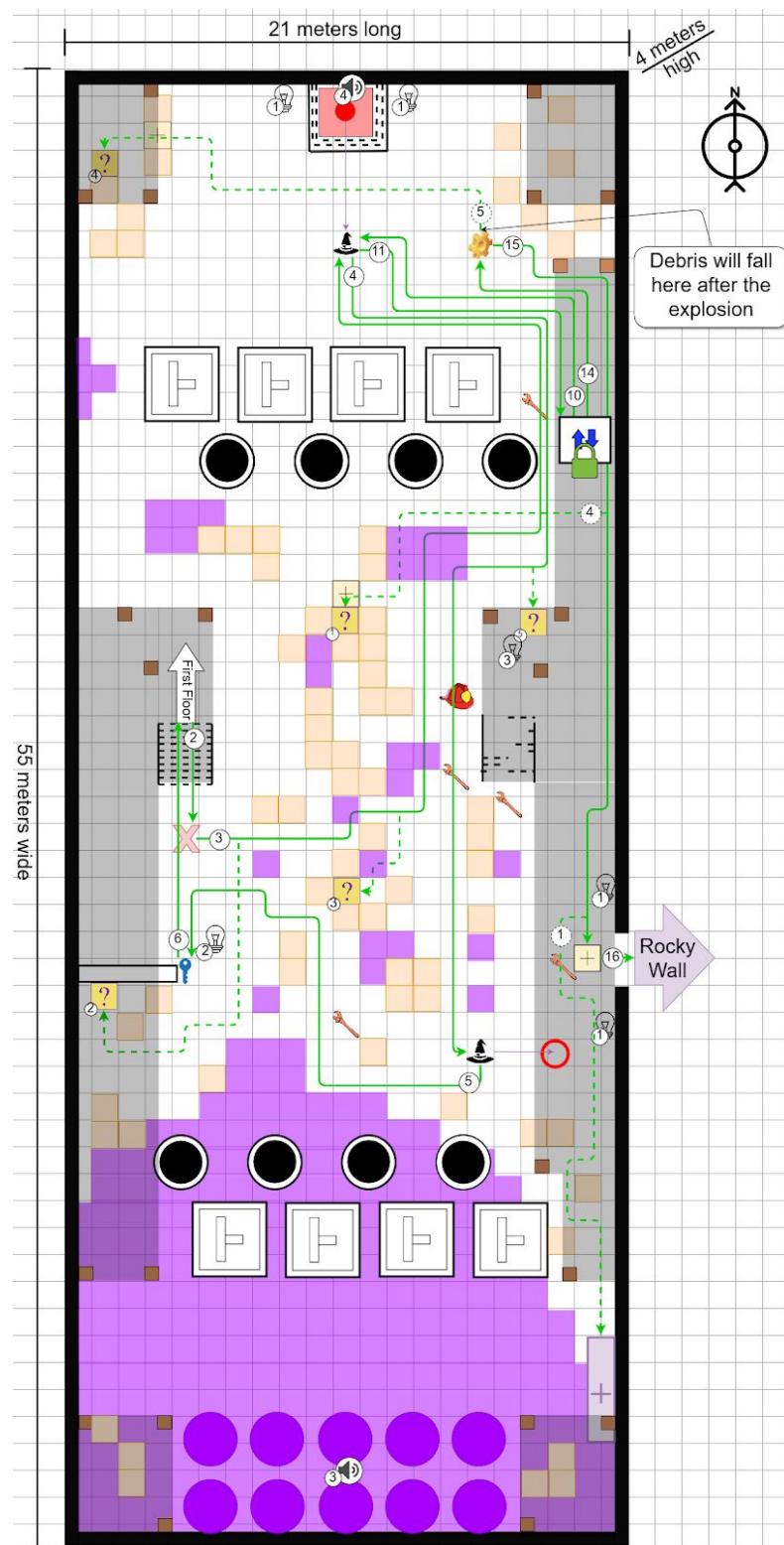


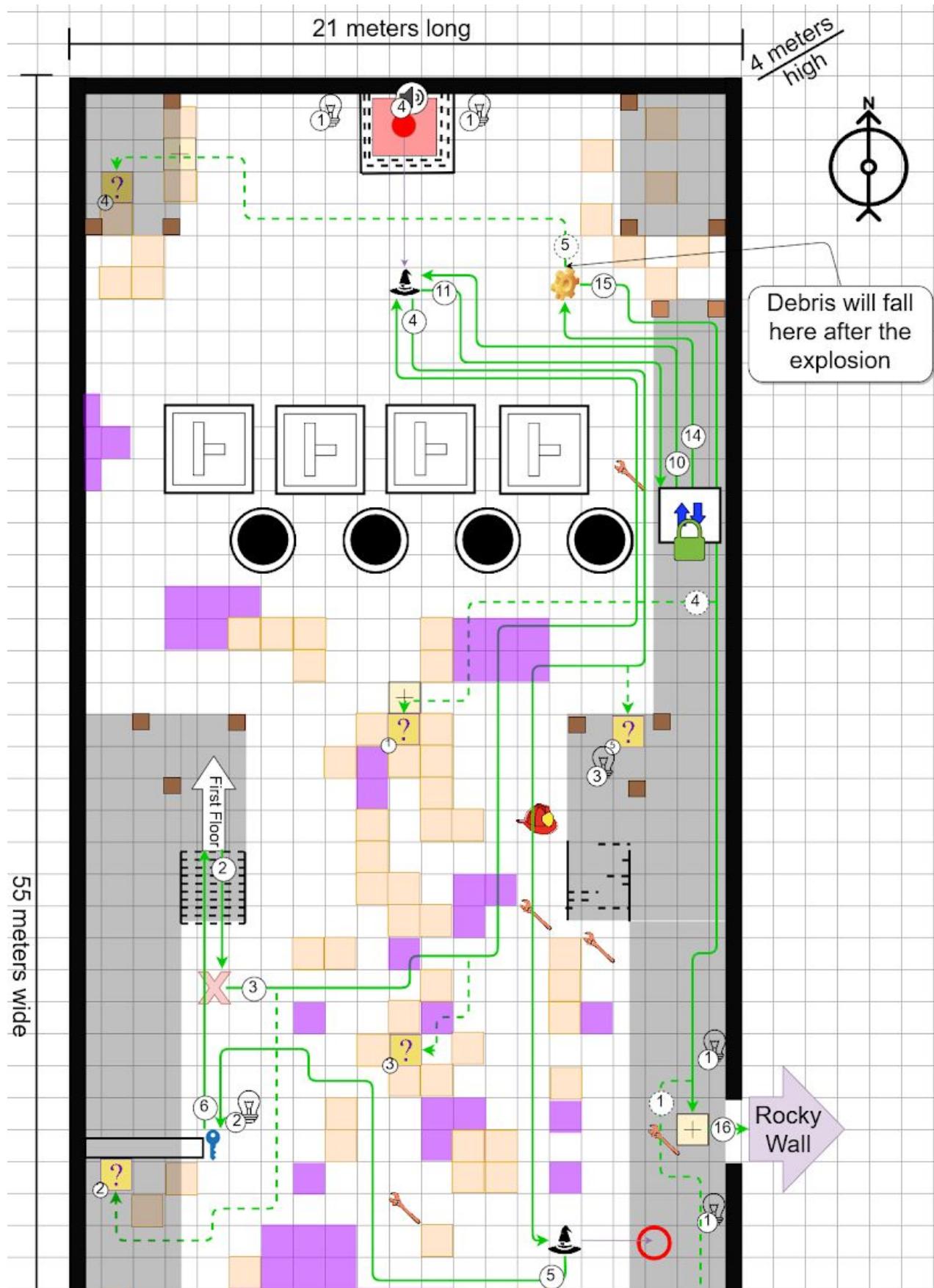
Zoom of the northern half of the Plant First Floor



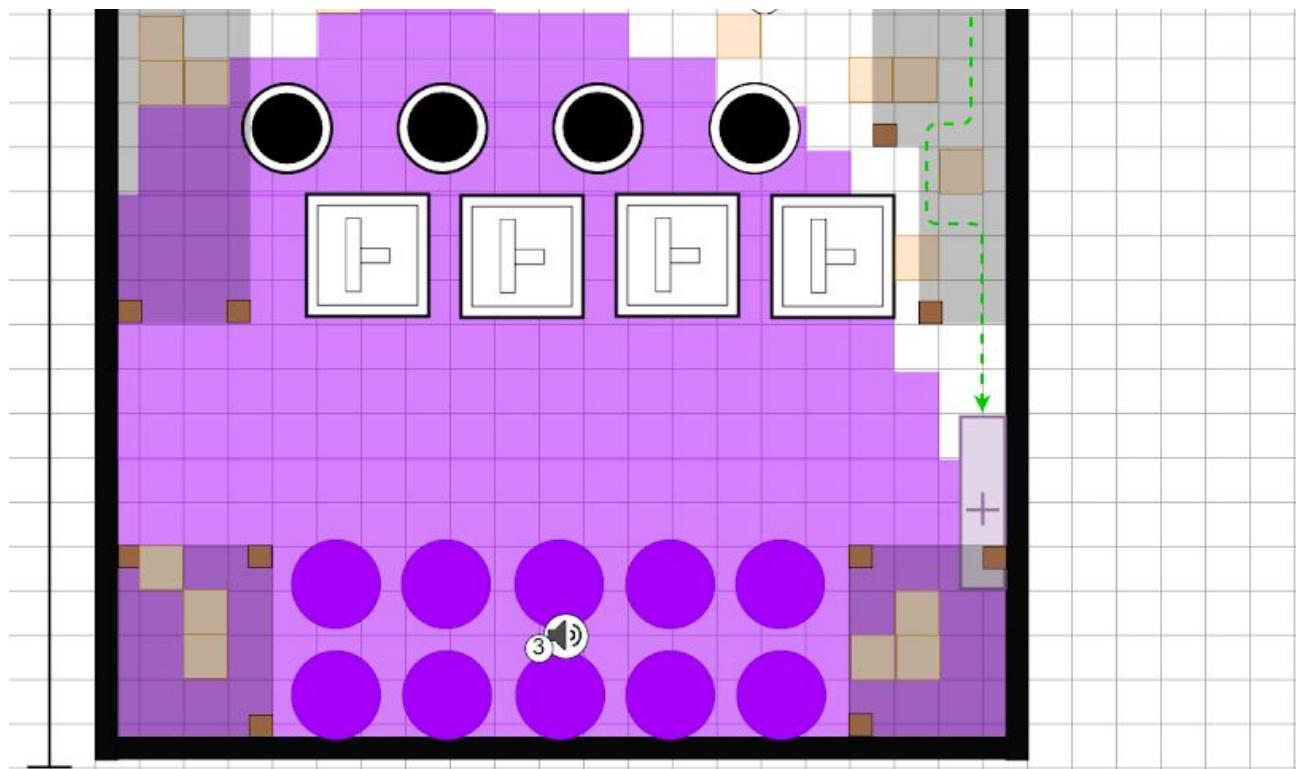
Zoom of the southern half of the Plant First Floor

3.1.2 - Plant (Ground Floor)



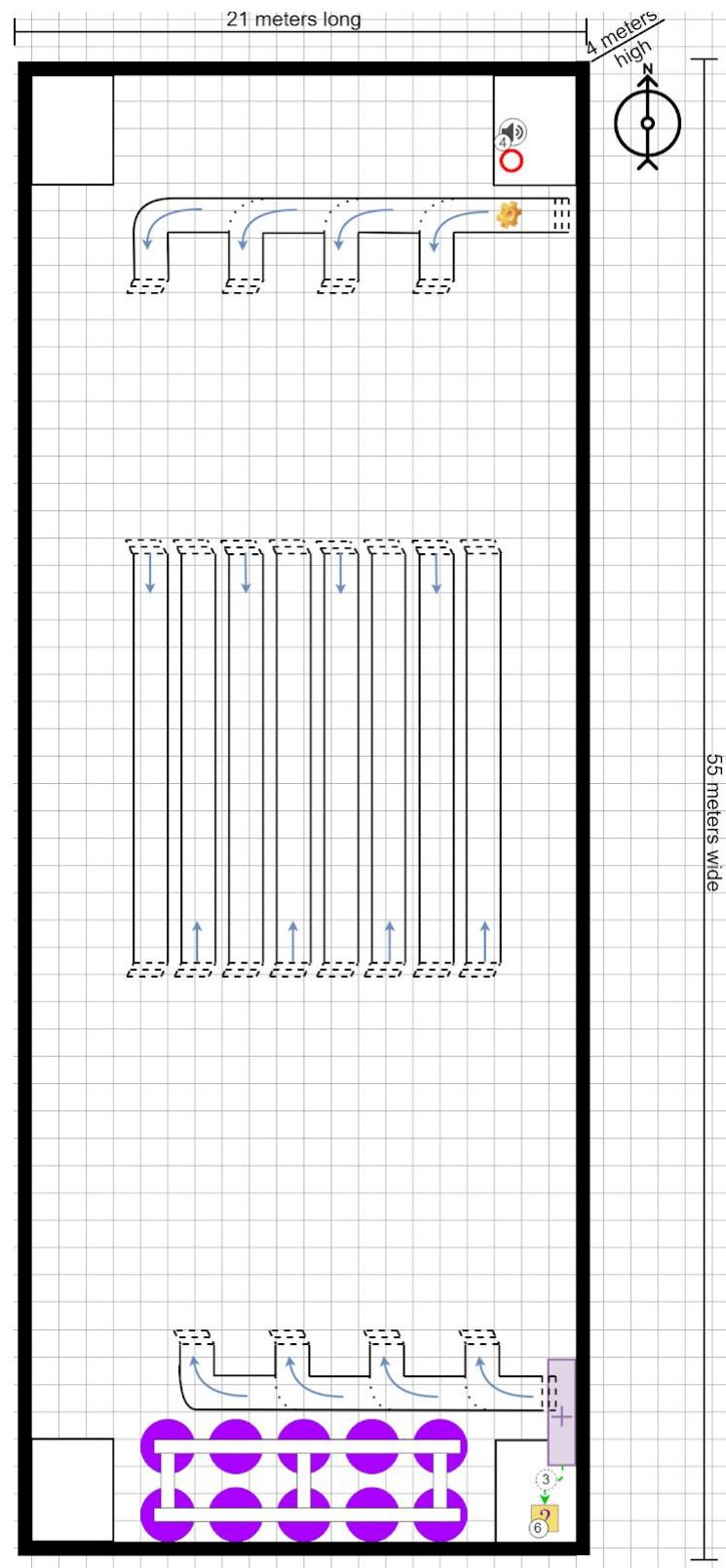


Zoom of the northern half of the Plant Ground Floor

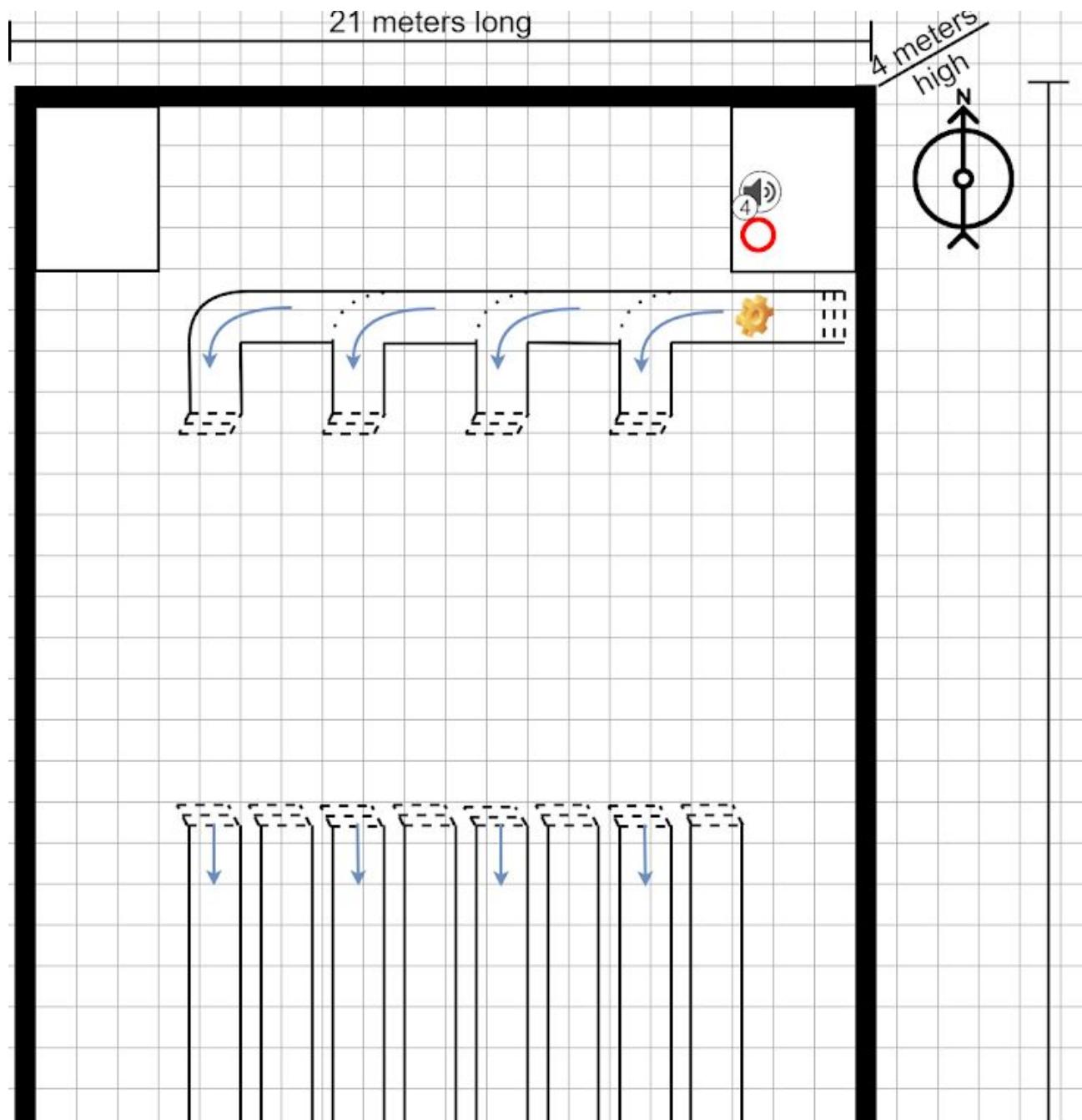


Zoom of the southern half of the Plant Ground Floor

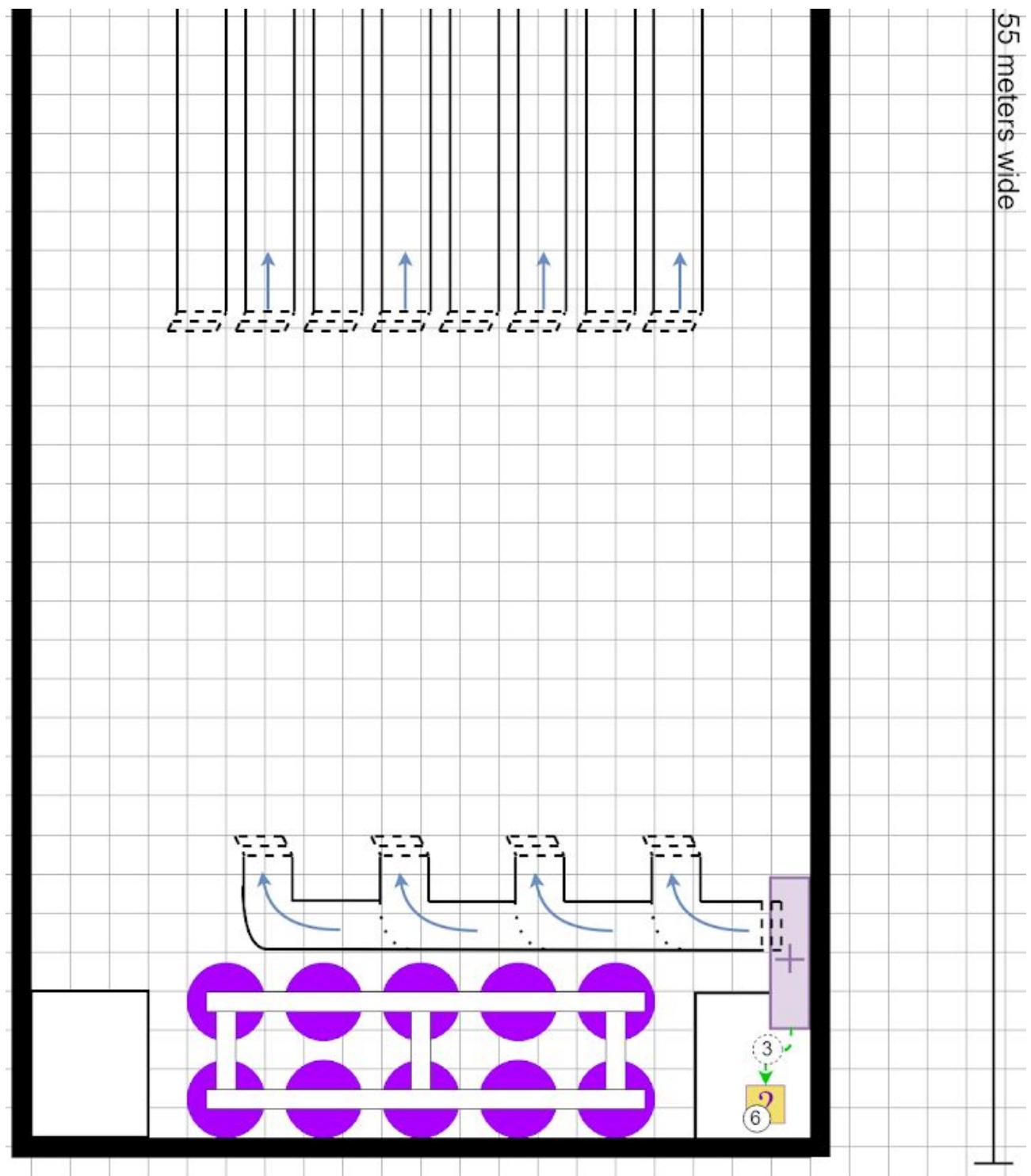
3.1.3 - Plant (Second Floor)



Complete view of the Plant Second Floor



Zoom of the northern half of the Plant Second Floor



Zoom of the southern half of the Plant Second Floor



Detailed actions

START in map [Plant1F](#) (page 59)

1. Use the ladders to reach the ground floor (move to map [PlantGF](#) page 62);
2. Fight the henchmen (encounter [details](#) at page 97);
3. Reach the explosive barrel dispenser and hold a barrel with the telekinesis (puzzle [details](#) at page 98);
4. Use the telekinesis to put the explosive barrel on the second catwalk near the destructible railing and blow it up with a fire bolt;
5. Turn the valve on the ground floor to close the steam emission on the first floor;
6. Use the ladders to reach the first floor (move to map Plant1F page 59);
7. Solve the pipe puzzle (puzzle [details](#) at page 100);
8. Fix the broken conveyor belt;
9. Overcome the platform sequence (puzzle [details](#) at page 100) jumping through the conveyor belts. On the second catwalk activate the elevator and reach the ground floor (move to map PlantGF page 62);
10. Reach the explosive barrel dispenser and hold a barrel with the telekinesis;
11. Use the elevator to reach the first floor (move to map Plant1F page 59);
12. Use the telekinesis to put the explosive barrel on the north-east platform of the second floor near the conveyor belts, blow it up with a fire bolt to throw some debris to the ground floor (further details at map [Plant2F](#) page 65);
13. Use the elevator to reach the ground floor (move to map PlantGF page 62);
14. Reach the debris;
15. Make a gorilla golem to push the boulder at the exit;
16. Reach the “Outside” area.



Optional actions

START in map PlantGF (page 62 after step 14)

1. Make a spider golem and reach the climbable wall;
2. Climb to the first floor (move to map Plant1F page 59);
3. Climb to the second floor and collect the sixth treasure (move to map Plant2F page 65);

START in map PlantGF (page 62 after step 14)

4. Make a gorilla golem, push the boulder and collect the first treasure;

START in map PlantGF (page 62 after step 14)

5. Make a gorilla golem, push the boulder and collect the fourth treasure;

Sounds

Ambient sound: The noises of machineries resonates in the wide plant. Sometimes a deadened rumble can be heard from the outside. When Sophie walks on the catwalks she makes metal noises.

1. Obstructed compactor, turns to 2 when fixed.
2. Working compactor.
3. Silos whiz.
4. Explosion (when triggered).
5. Rhythmic machinery noise (one every two seconds).

Lighting

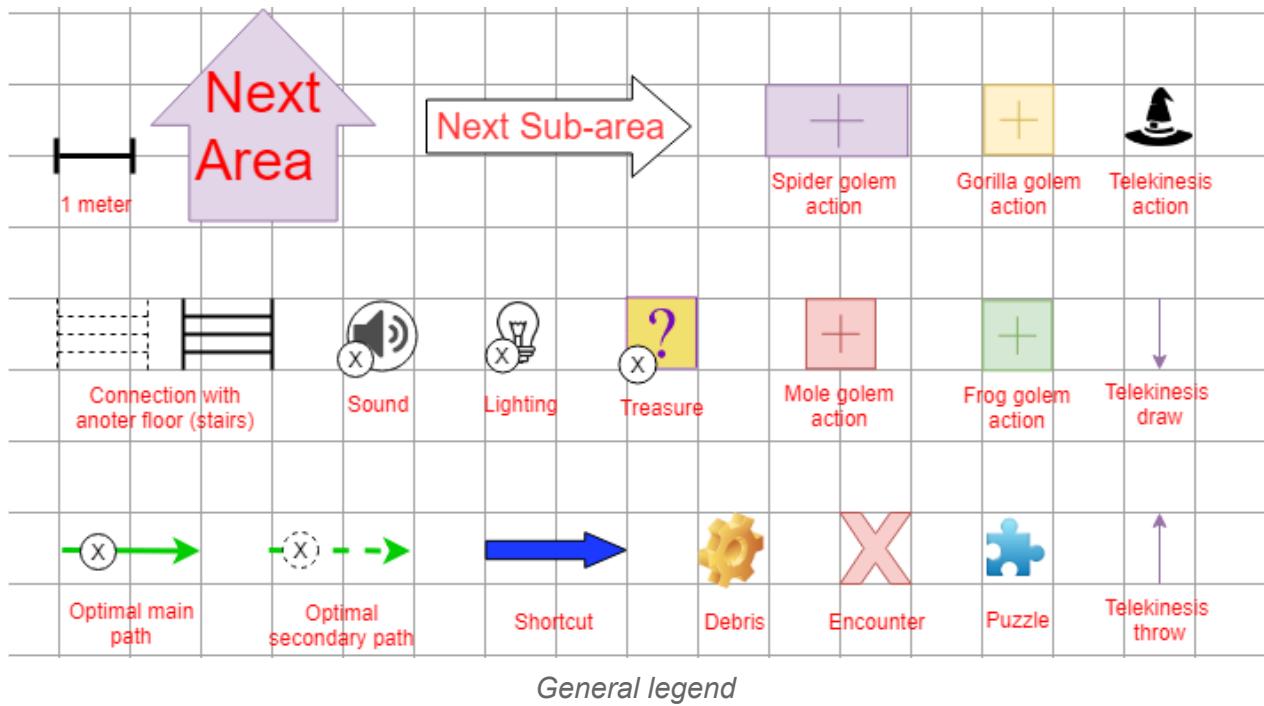
Ambient lighting: A soft greyish light filters from a line of windows on the third floor on the east side and from the door on the ground floor.

1. Reddish lamps. The ones positioned on the catwalks are attached on the railing.
2. Green lamp, enlightens the valve.
3. Little orange light that comes from the fire.

Treasures

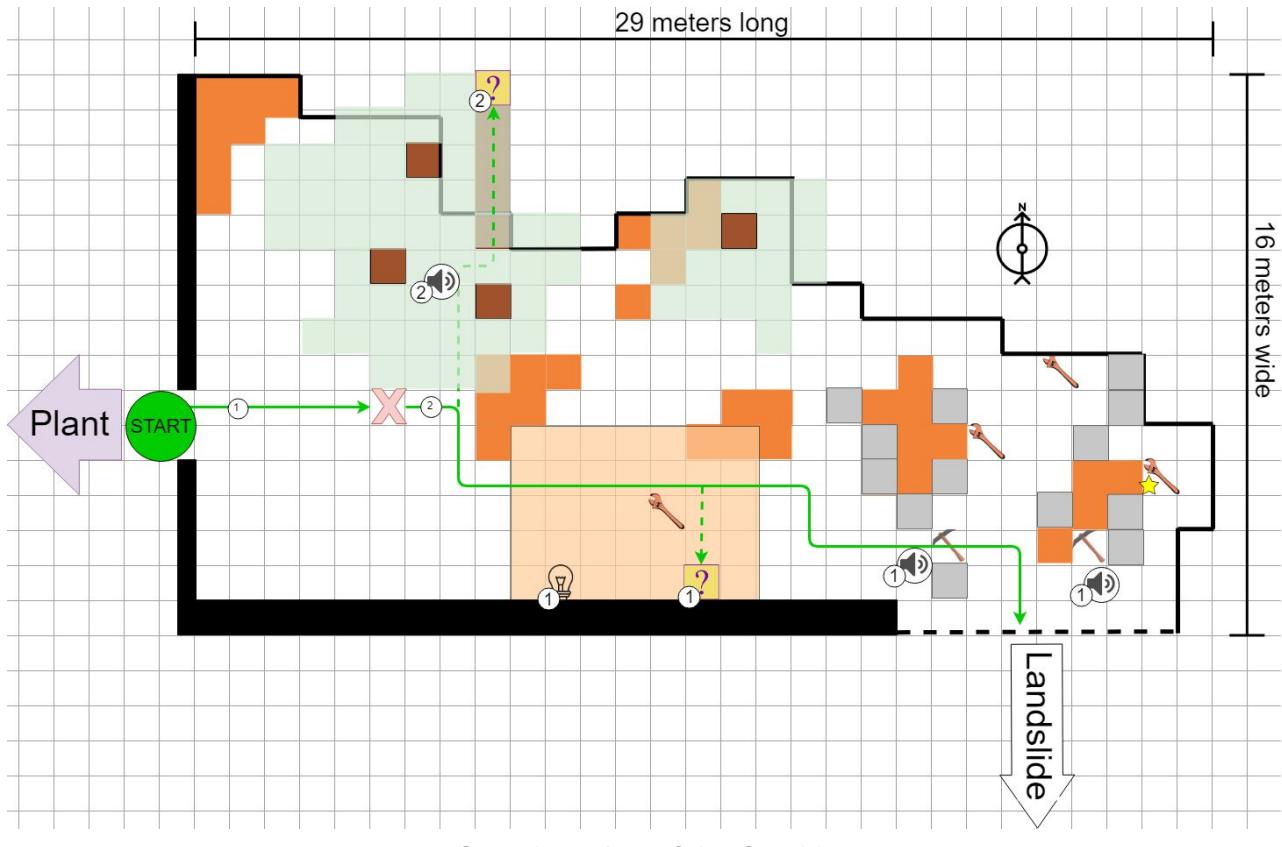
1. Coal x1
2. Coal x1
3. Mushroom x1
4. Mushroom x1
5. Ash x2
6. Supercoal x2

3.2 - Outside

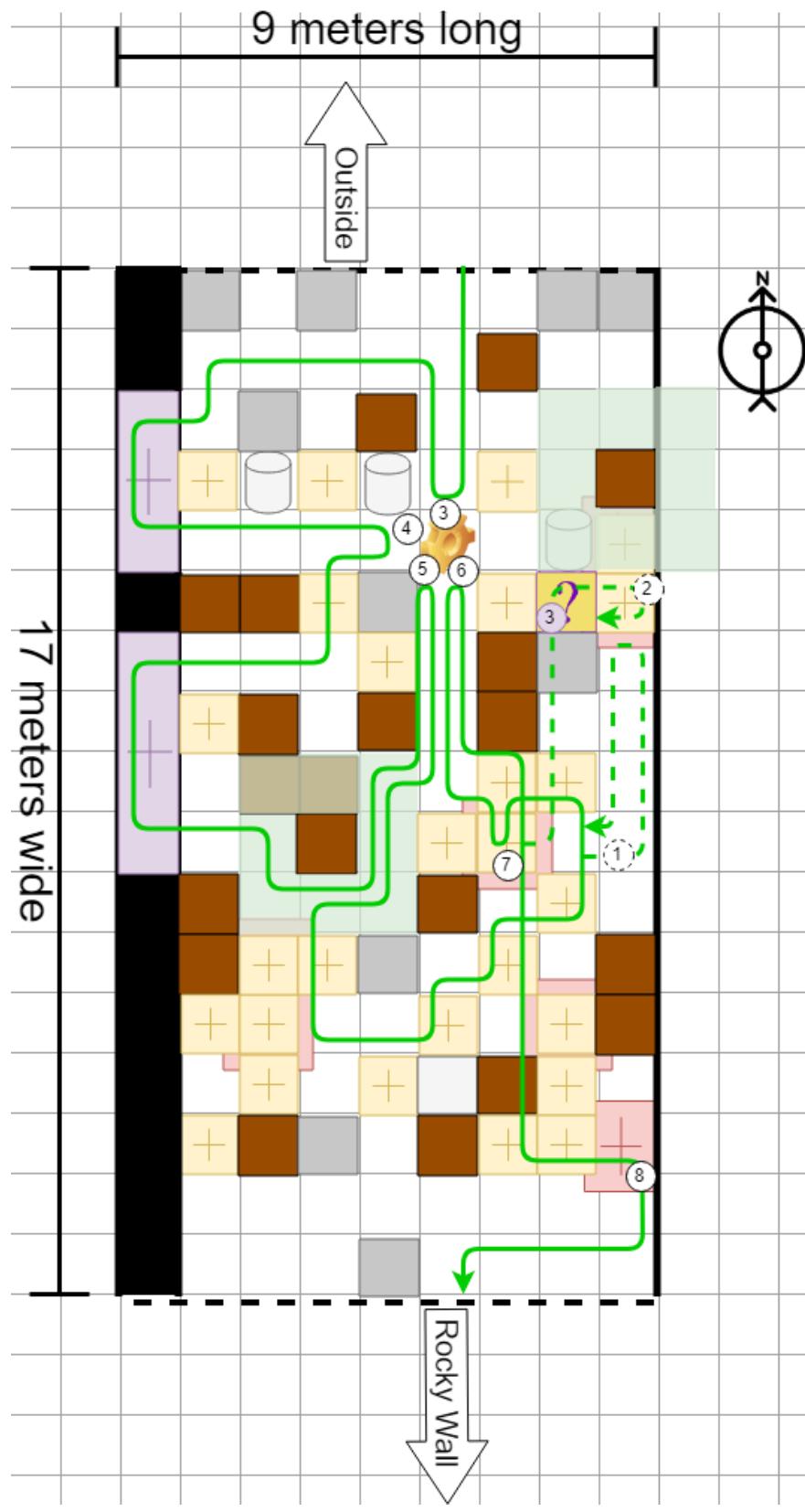


Area legend

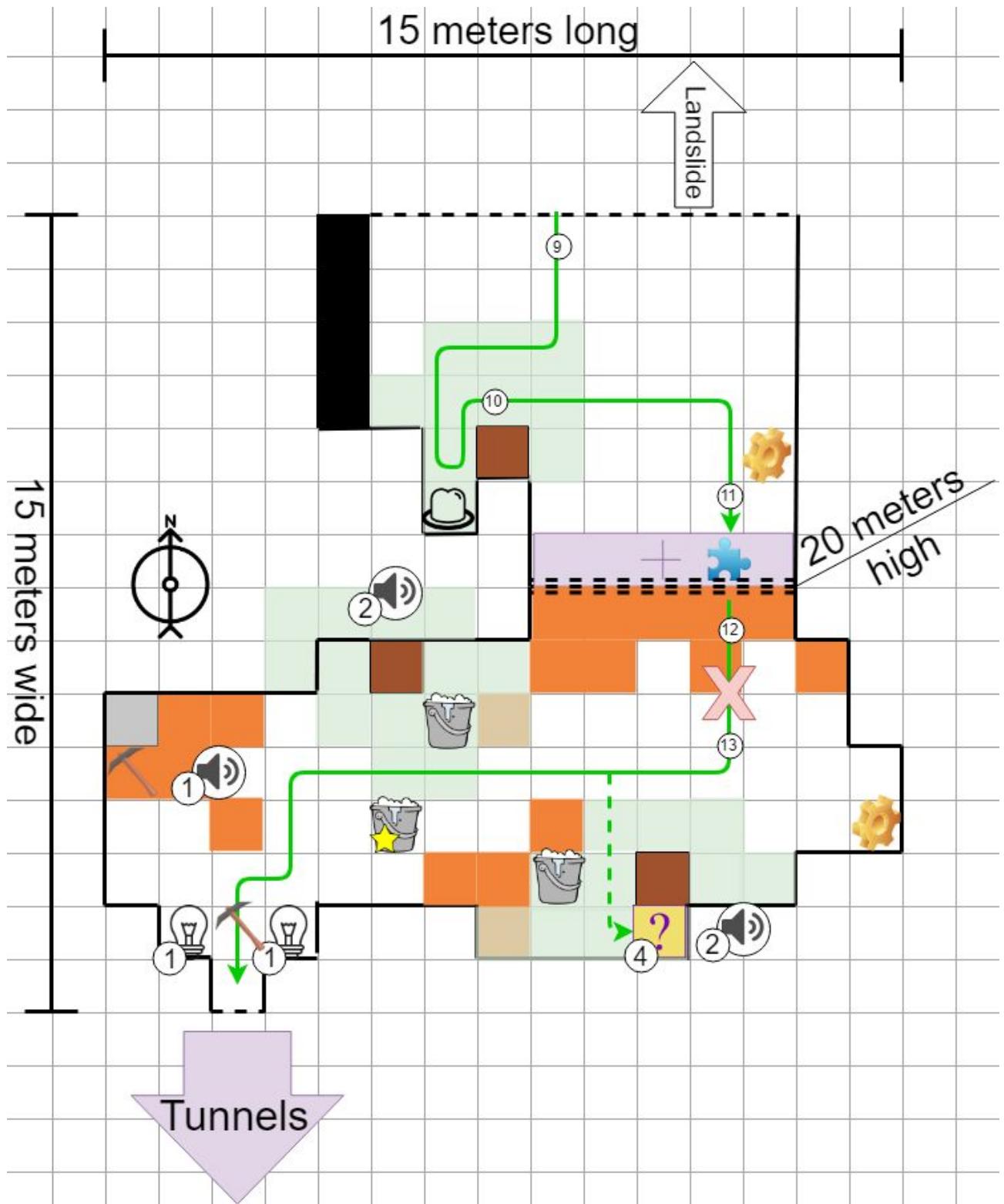
3.2.1 - Outside



3.2.2 - Landslide



3.2.3 - Rocky Wall



Complete view of the Rocky Wall



Detailed actions

START in map [Outside](#) (page 71)

1. Fight the henchmen (encounter A [details](#) at page 105);
2. Reach the landslide (move to map [Landslide](#) page 72);
3. Create the spider golem and pass the first climbable wall (puzzle [details](#) at page 106);
4. Create the gorilla golem, push the boulder by two meters. Create the spider golem and pass the second climbable wall;
5. Create the gorilla golem and push the boulders on the way;
6. Create the mole golem;
7. Reach the patch of soil and dig underground;
8. Reach the area after the landslide, move to the surface and reach the rocky wall (move to map [Rocky wall](#) page 73);
9. Cutscene involving dialogues with William the Hat Seeker (dialogue [details](#) at page 107);
(Optional: [shop action](#) see page 108);
10. Reach the debris and create the spider golem;
11. Overcome the climbing section (puzzle [details](#) at page 106);
12. Fight the henchmen on top of the rocky wall (encounter B [details](#) at page 106);
13. Reach the “Tunnels” area.



Optional actions

START in map [Landslide](#) page 75 (after step 5)

1. Pull the boulder and proceed with the main path to step 7;
2. Move to the surface and collect the third treasure.



Sounds

Ambient sound: it's raining heavily, thunders strikes near, rumbles can be heard. Sophie makes a squelching sound when she walks on the mud.

1. Henchman using the pick to break the rock.
2. The wind rush the trees.



Lighting

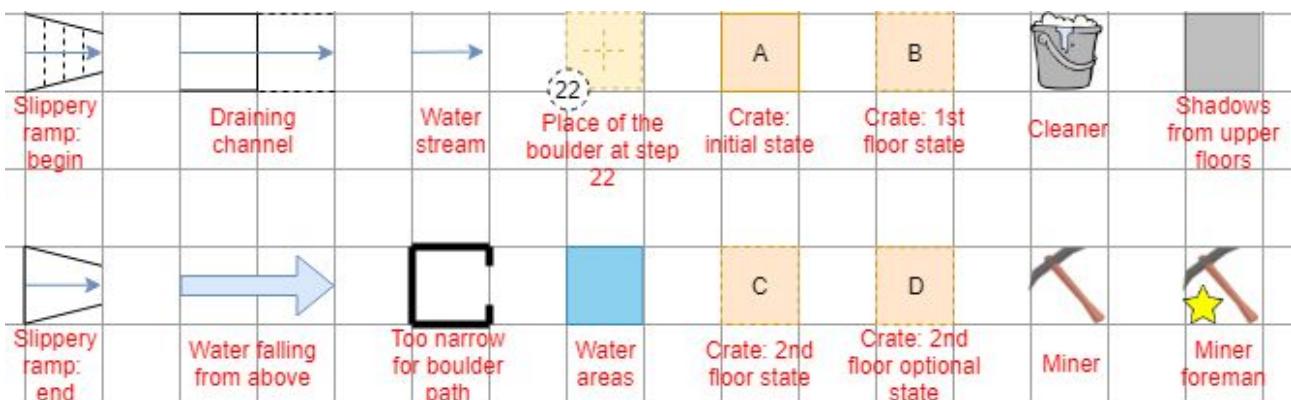
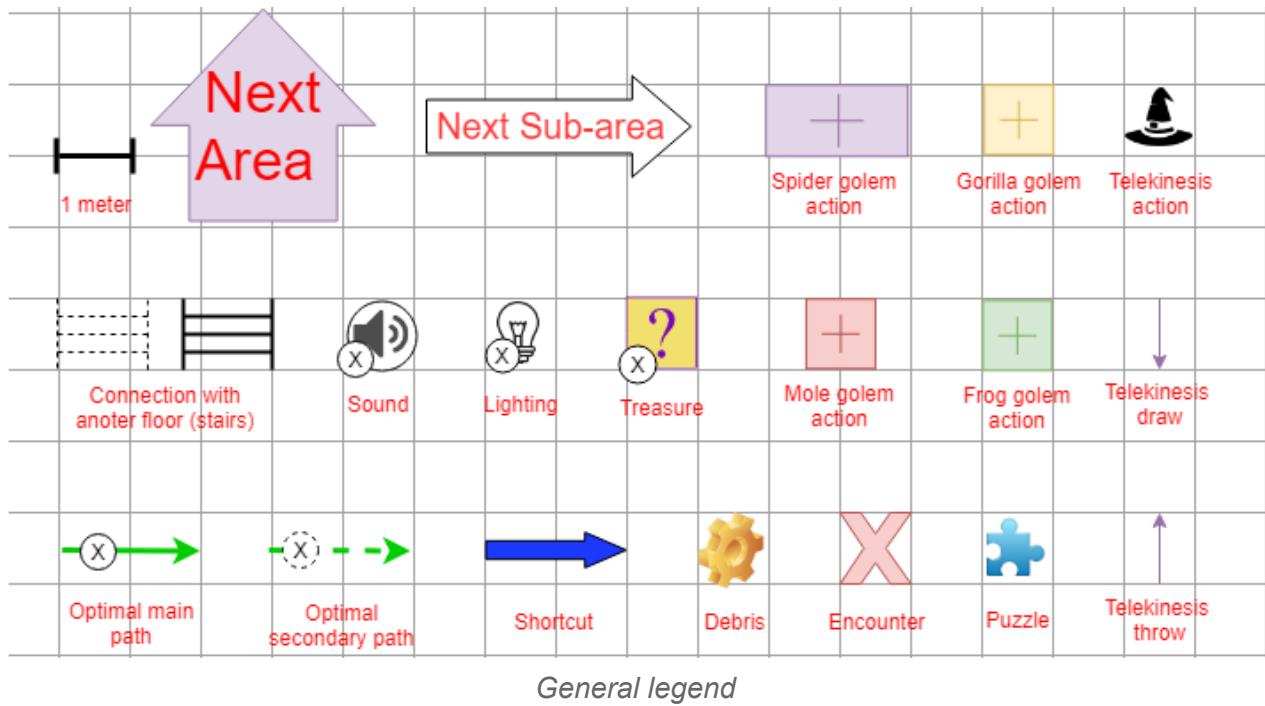
Ambient lighting: The storm gives a greyish tone to all the area, when the lightnings strikes, for a brief time all the zone is lit up.

1. Soft, falter reddish light that comes from a lamp.
2. Hard, orangish light that comes from a torch.

Treasures

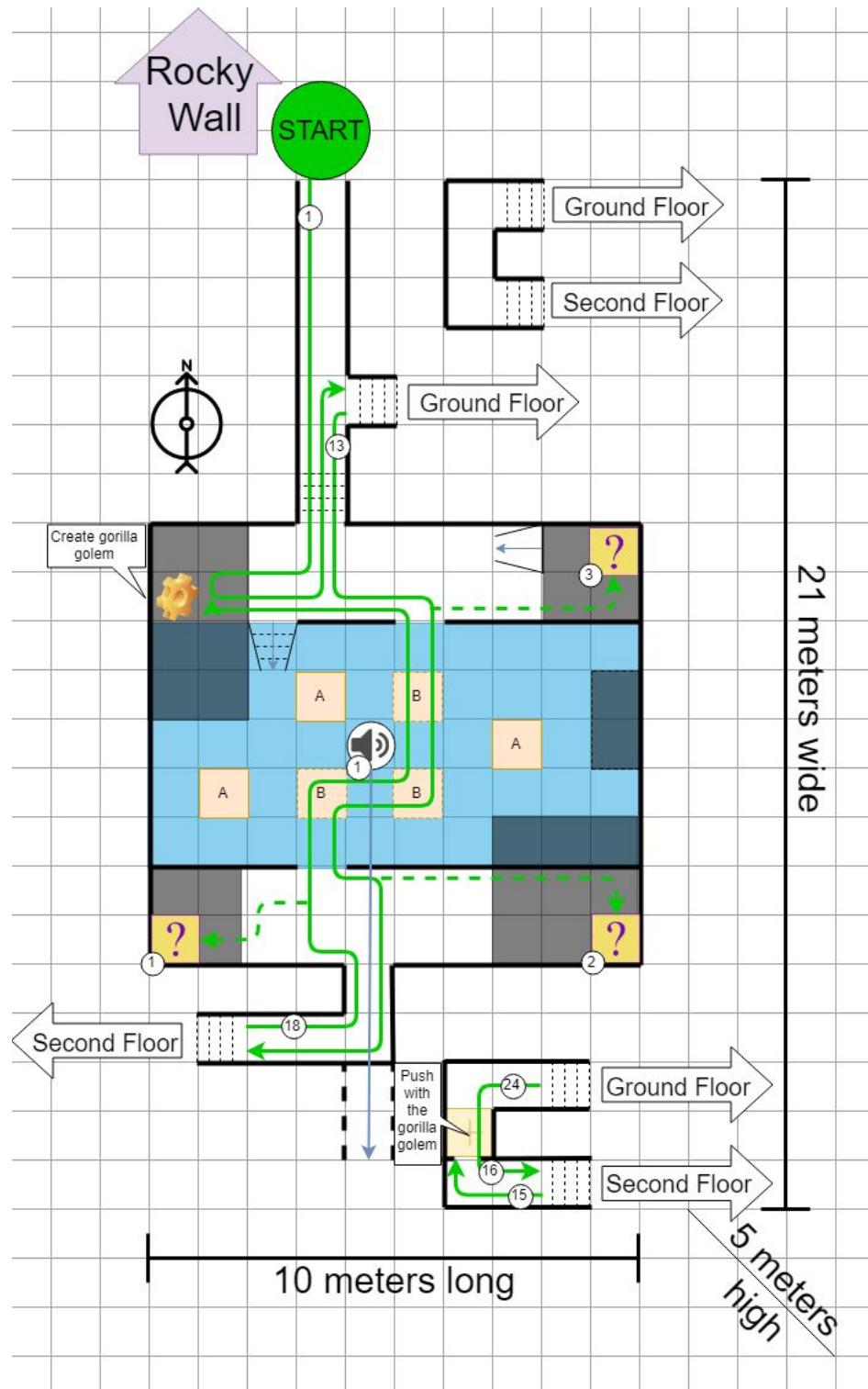
1. Mushroom x1
2. Mushroom x1
3. Herb x2
4. Mushroom x1

3.3 - Tunnels



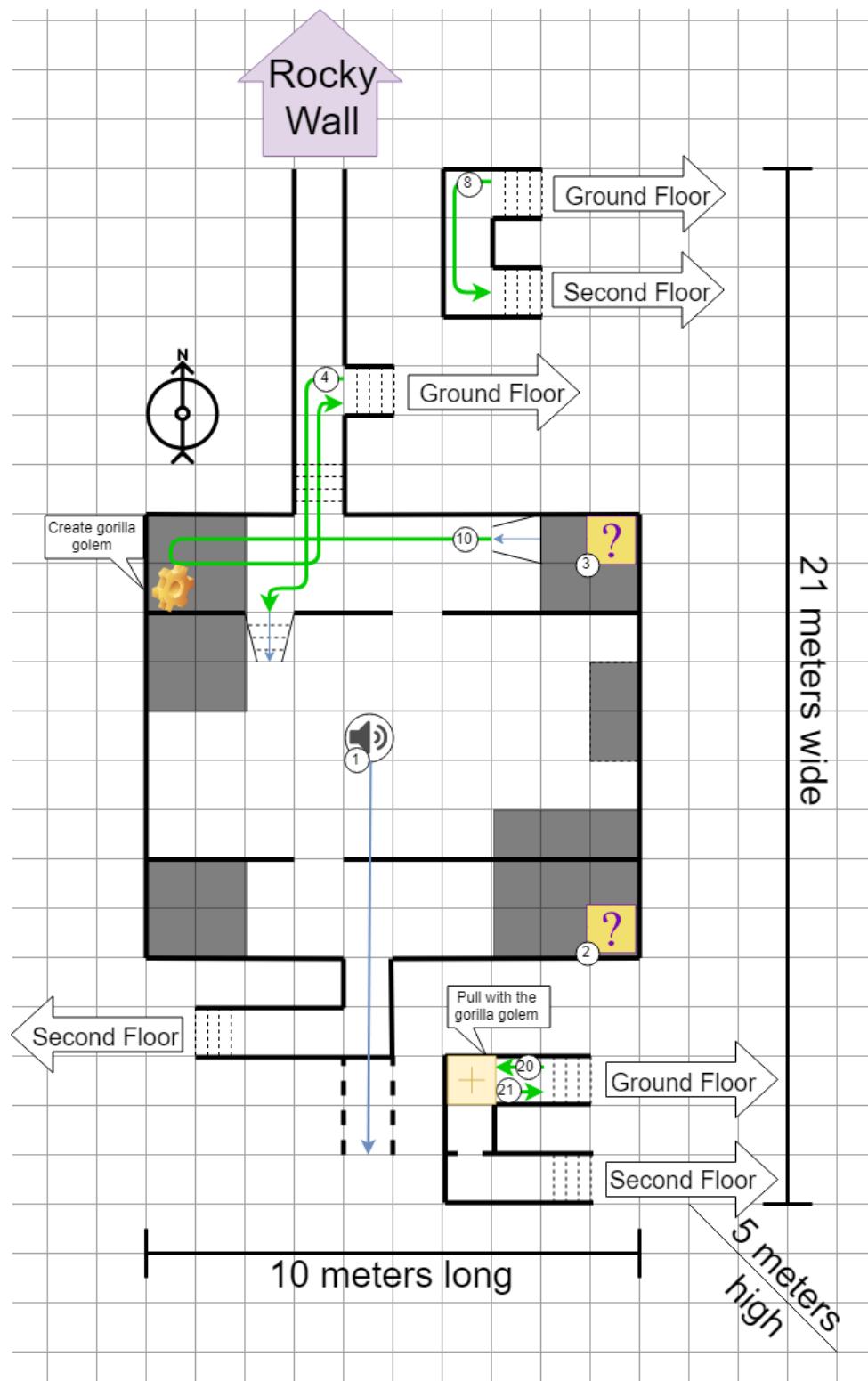
3.3.2 - Tunnels (1st Floor)

Half-flooded first floor



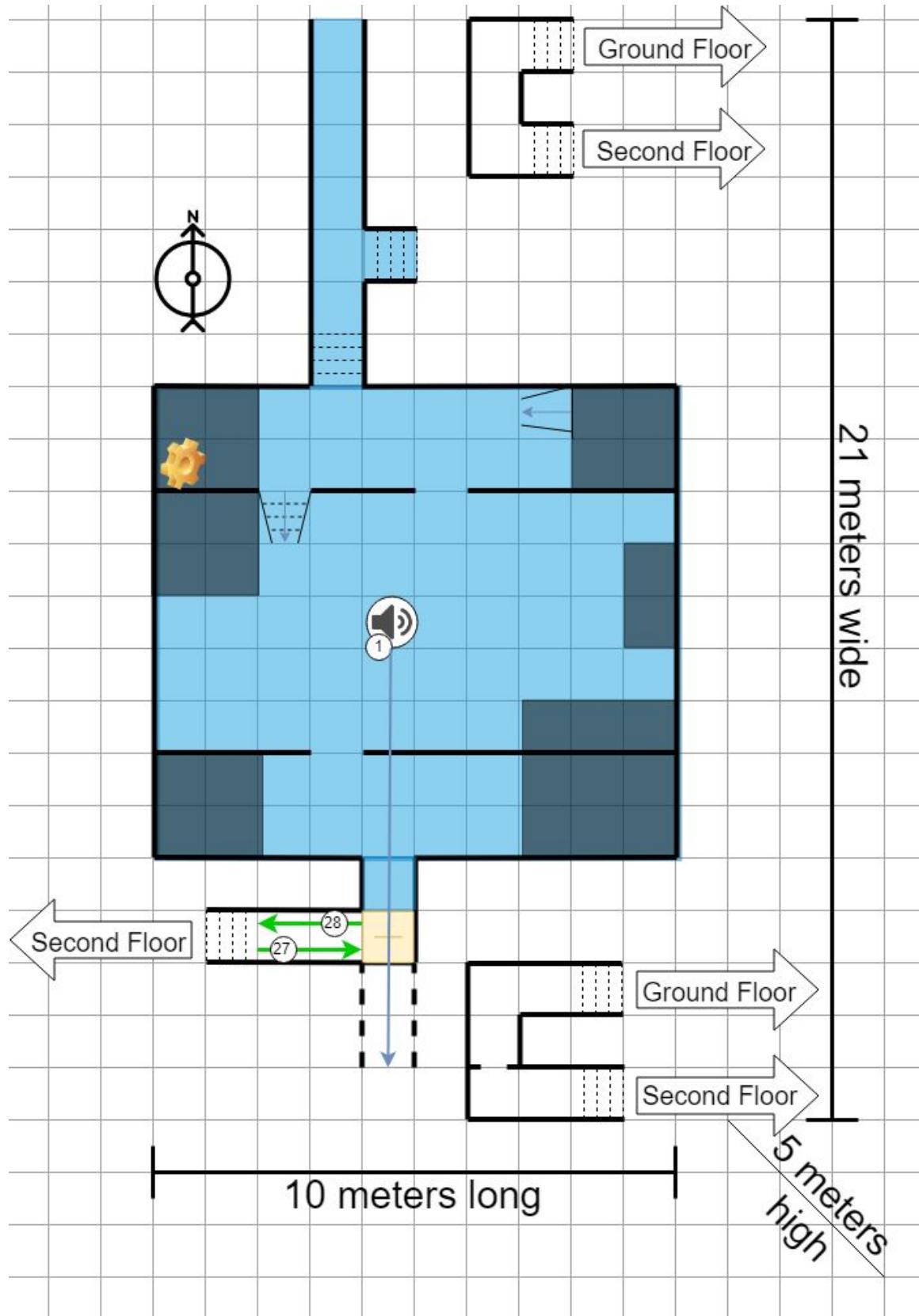
First floor of the Tunnels with water at first level due to ground floor drainage channel blocked

Dried first floor



First floor of the tunnels dried out

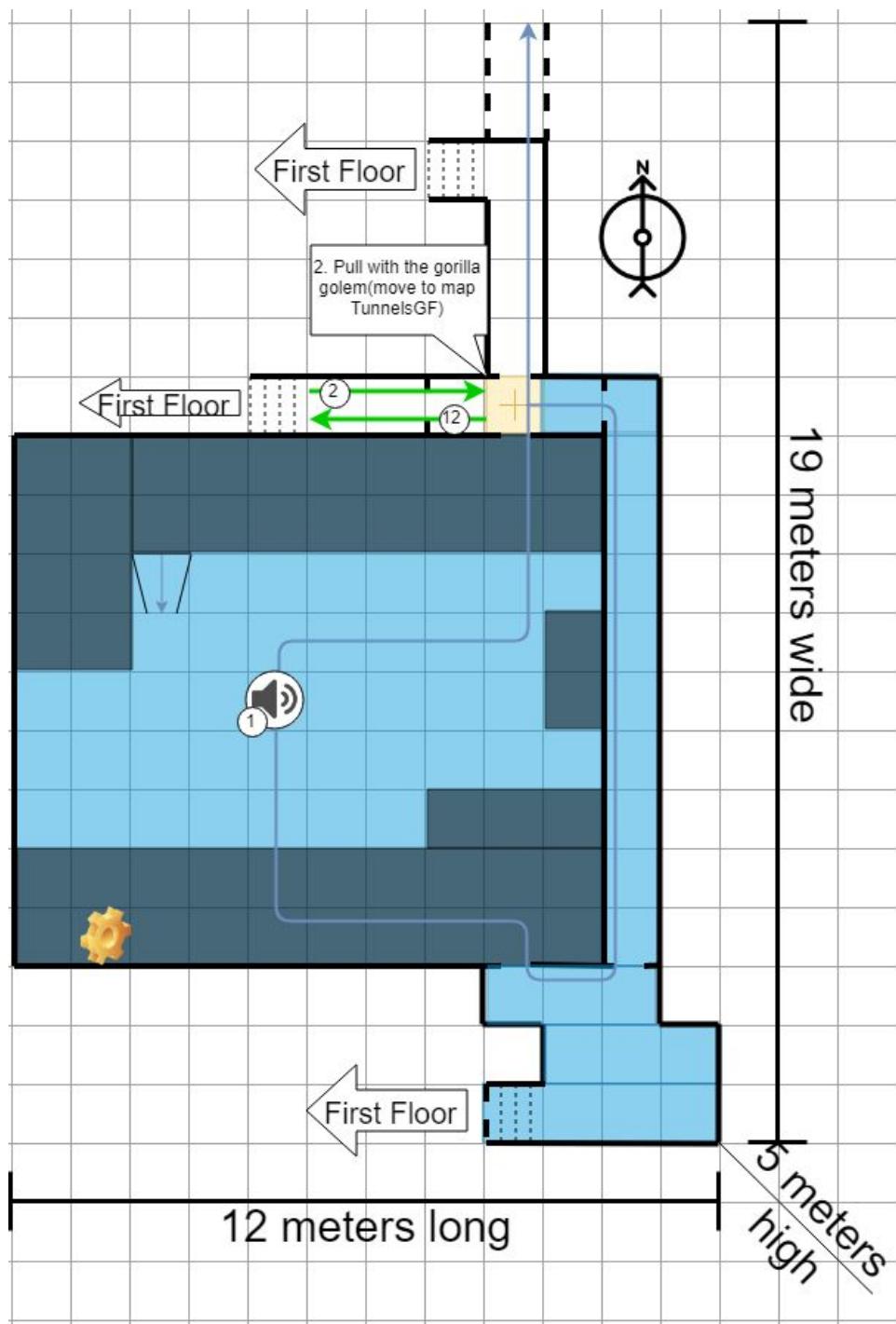
Flooded first floor



First floor of the tunnels with water at second level due to both drainage channels blocked

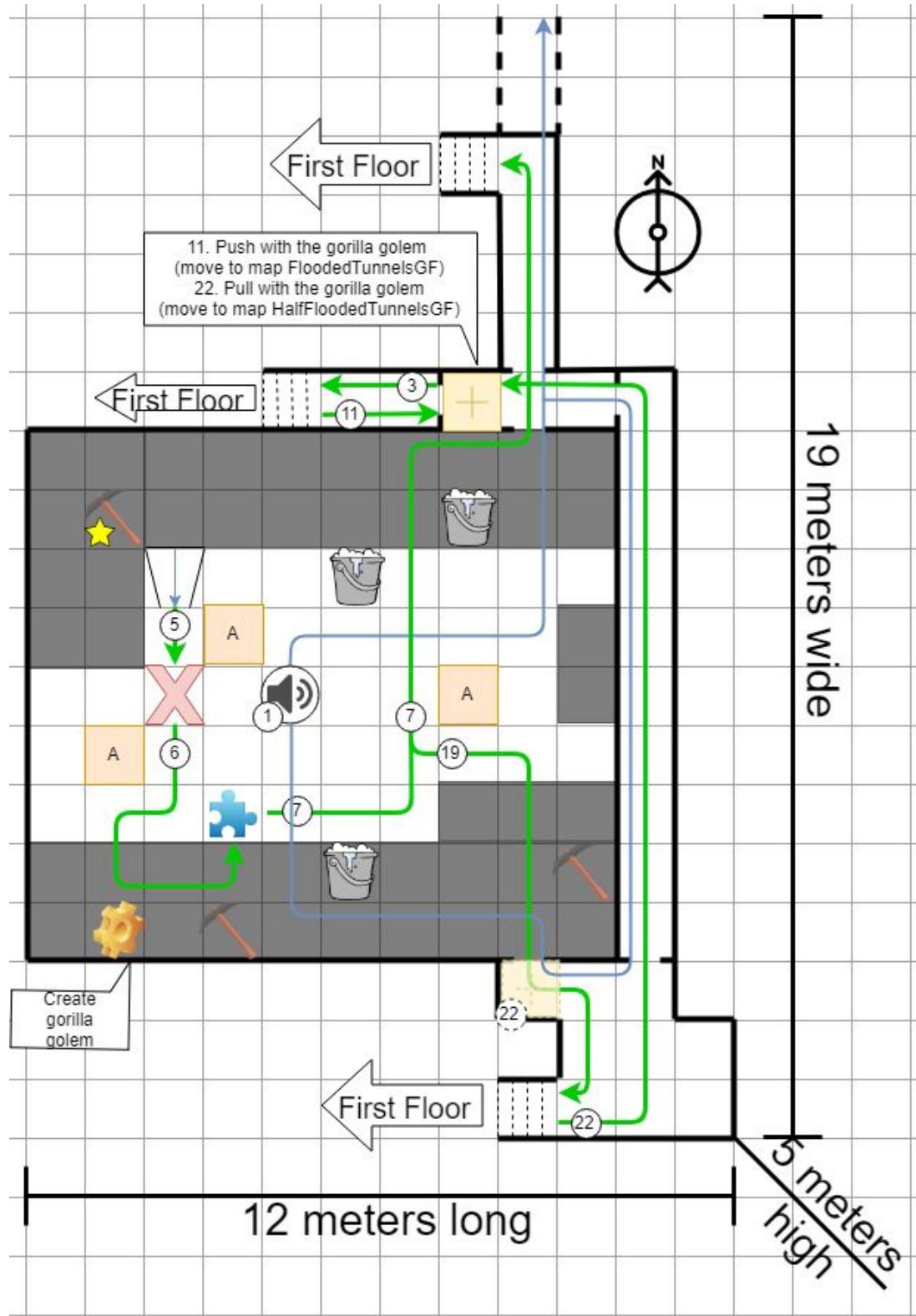
3.3.1 - Tunnels (Ground Floor)

Flooded ground floor



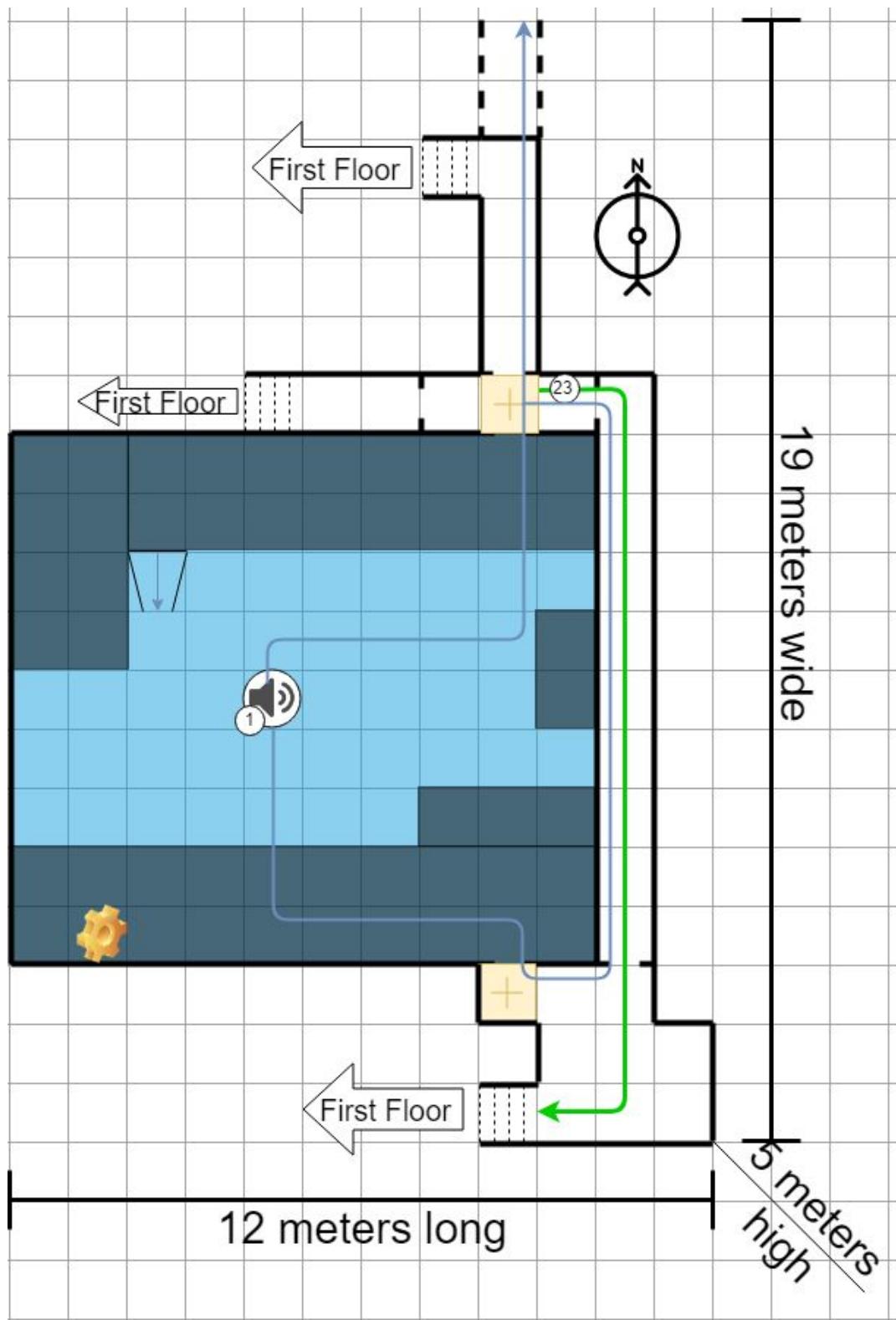
Ground floor of the tunnels, flooded due to drainage channel blocked

Dried ground floor



Ground floor of the tunnels dried out

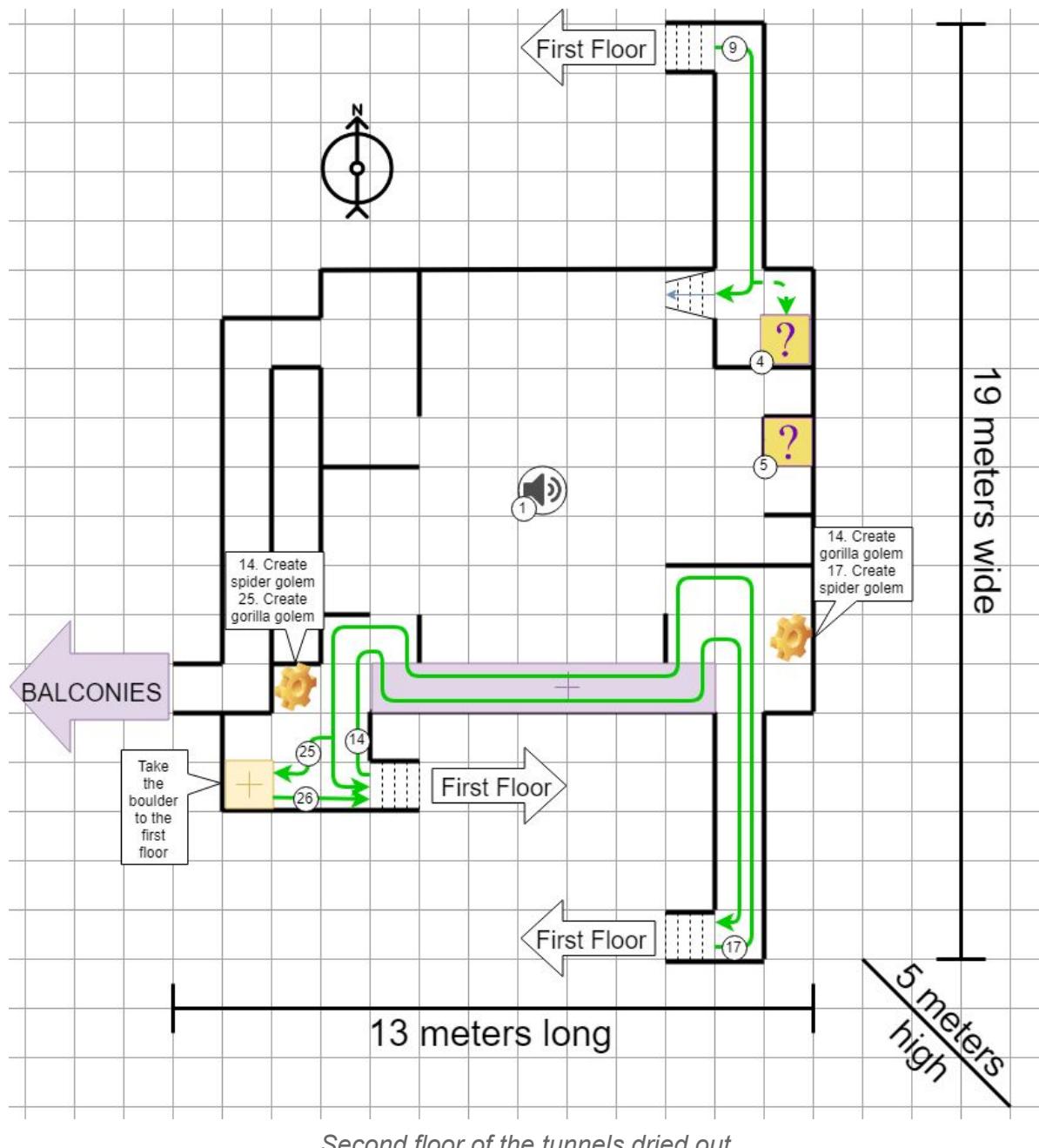
Half-flooded ground floor



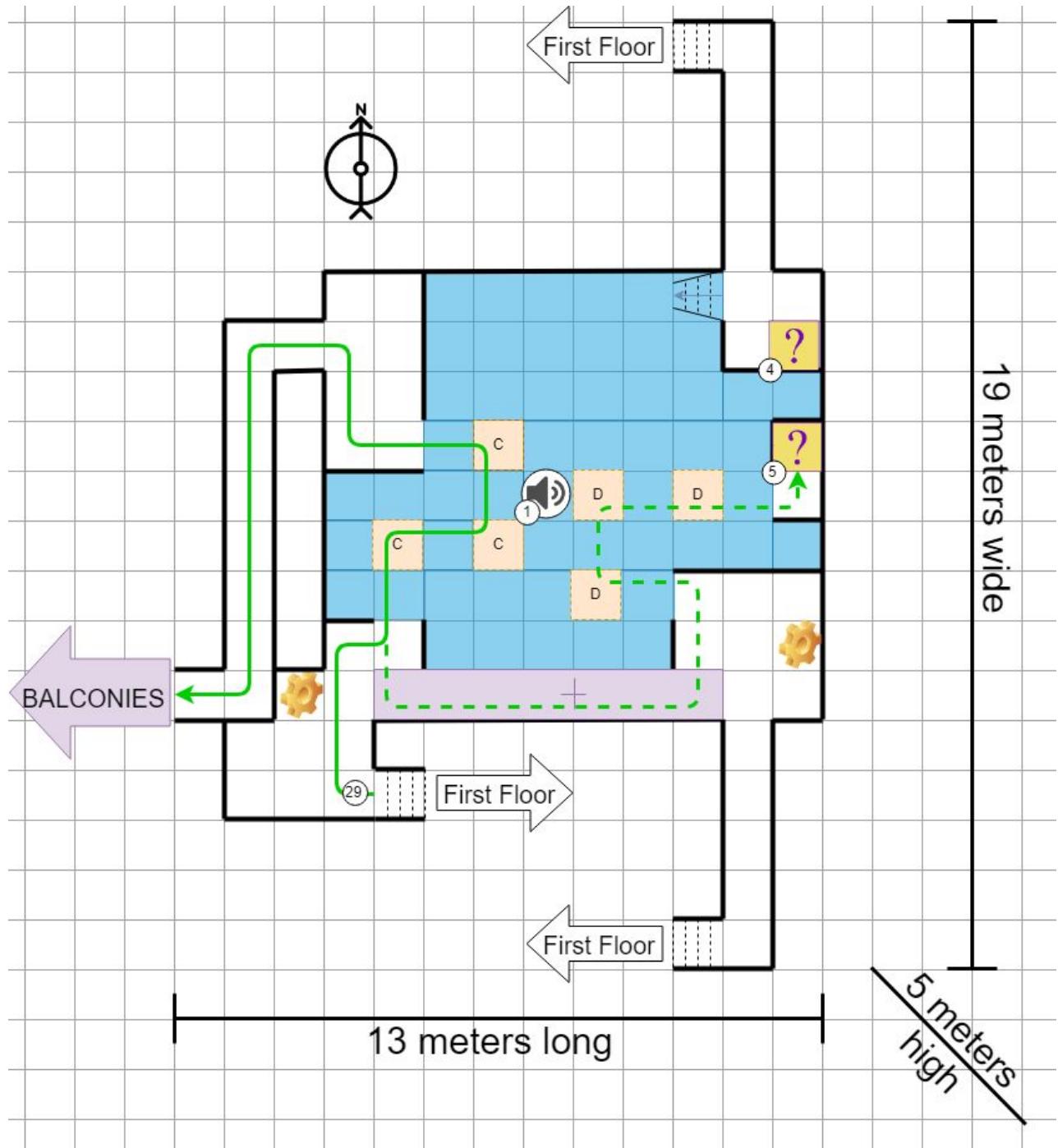
Ground floor of the tunnels, half-flooded due to drainage channel blocked and boulder on the south path to prevent drowning

3.3.3 - Tunnels (2nd Floor)

Dried second floor



Half-flooded second floor



Second floor of the tunnels with water at second level due to both drainage channels blocked



Detailed actions

START in map [Half-floodedTunnels1F](#) (page 77)

1. Reach the debris, create the gorilla golem and move to the ground floor (move to map [FloodedTunnelsGF](#) page 80);
2. Pull the boulder to release the ground floor drainage channel (move to map [TunnelsGF](#) page 81);
3. Move to the first floor (move to map [Tunnels1F](#) page 78);
4. Take the slide down to the ground floor (move to map [TunnelsGF](#) page 81);
5. Fight the henchmen (encounter [details](#) at page 111);
6. Place the crates in state B (puzzle [details](#) at page 112);
7. Reach the first floor through the northern path (move to map [Tunnels1F](#) page 78);
8. Reach the second floor (move to map [Tunnels2F](#) page 83);
9. Take the slide down to the first floor (move to map [Tunnels1F](#) page 81);
10. Reach the debris, create the gorilla golem and move to the ground floor (move to map [TunnelsGF](#) page 81);
11. Push the boulder to block the ground floor drainage channel (move to map [FloodedTunnelsGF](#) page 80);
12. Move to the first floor (move to map [Half-floodedTunnels1F](#) page 77);
13. Jump on the crates to reach the southern platform and move to the second floor (move to map [Tunnels2F](#) page 83);
14. Create the spider golem and pass the climbable wall. Create the gorilla golem and move to the first floor (move to map [Half-floodedTunnels1F](#) page 77);
15. Push the boulder with the gorilla golem;
16. Move to the second floor (move to map [Tunnels2F](#) page 83);
17. Create spider golem, pass the climbable wall and move to the first floor (move to map [Half-floodedTunnels1F](#) page 77);
18. Jump on the crates to reach the northern platform and follow from step 1 to step 4.
Place the crates on state C (optional: state D);
19. Make the gorilla golem and reach the first floor through the southern path (move to map [Tunnels1F](#) page 78);
20. Pull the boulder;
21. Bring it down to the ground floor (move to map [TunnelsGF](#) page 81);
22. Place the southern boulder in the “required place for step 22” and pull the northern boulder to block the ground floor drainage channel (move to map [Half-floodedTunnelsGF](#) page 82);
23. Move to the first floor (move to map [Half-floodedTunnels1F](#) page 77);
24. Follow from step 16 to step 17;
25. Create the gorilla golem and move the boulder;
26. Bring it down to the first floor (move to map [FloodedTunnels1F](#) page 79);
27. Push the boulder to block the first floor drainage channel;
28. Move to the second floor (move to map [Half-floodedTunnels2F](#) page 84);
29. Jump on the crates to reach the north-west platform and move to the “Balconies” area
(Optional: If you placed the crates in state D, create the spider golem, pass the climbable wall and jump on the crates to reach the fifth treasure).

Sounds

Ambient sound: Water is dripping from the ceiling.

When Sophie walks produces the sound of stepping in wet floor.

When Sophie takes the slides, produces the sound of sliding.

When Sophie pushes the crates produces the sound of crates moving on the wet floor.

When Sophie pushes the boulders produces the sound of boulders moving on the wet floor.

1. Waterfall sound

Lighting

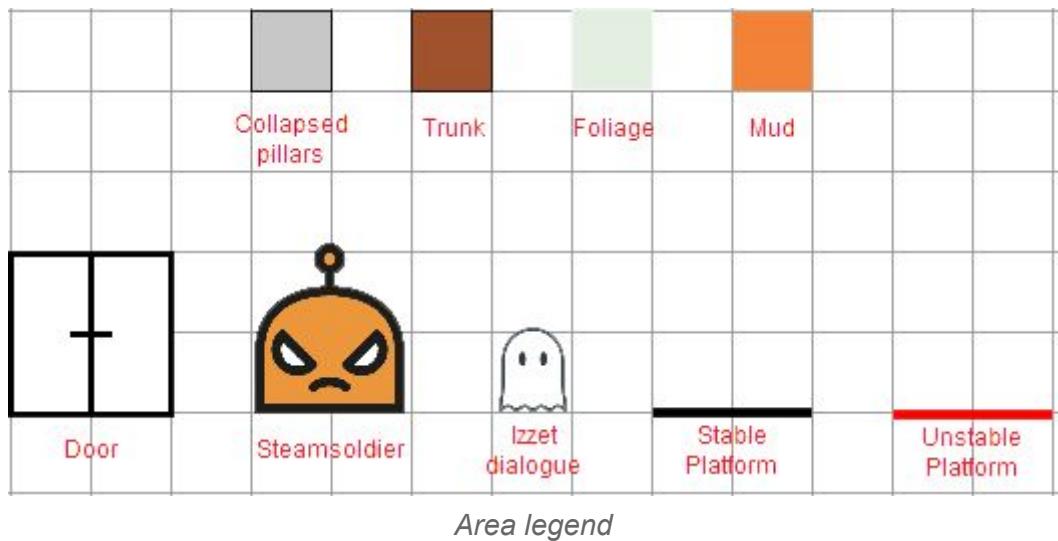
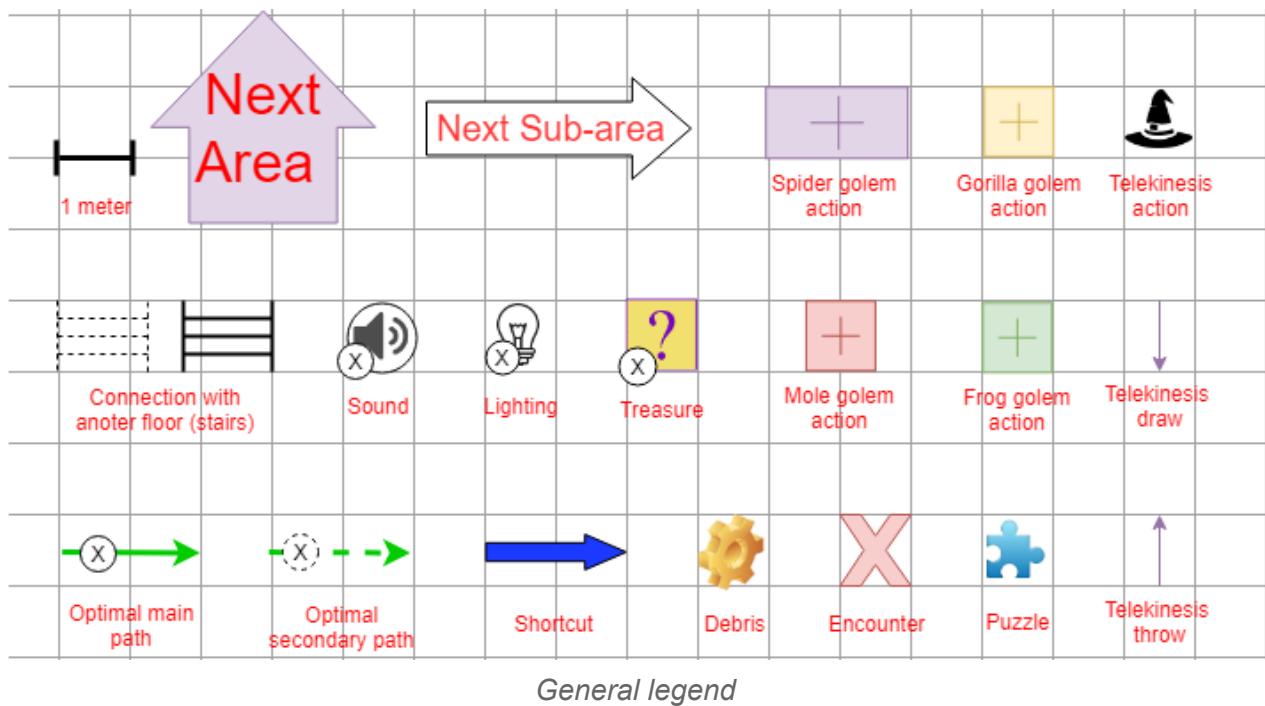
Ambient lighting: A weak light enters from the hole above illuminating the central room over the 3 floors. The corridors are completely dark.

Treasures

1. Ash x1
2. Coal x1
3. Coal x1
4. Ash x1
5. 7th diary page¹⁶

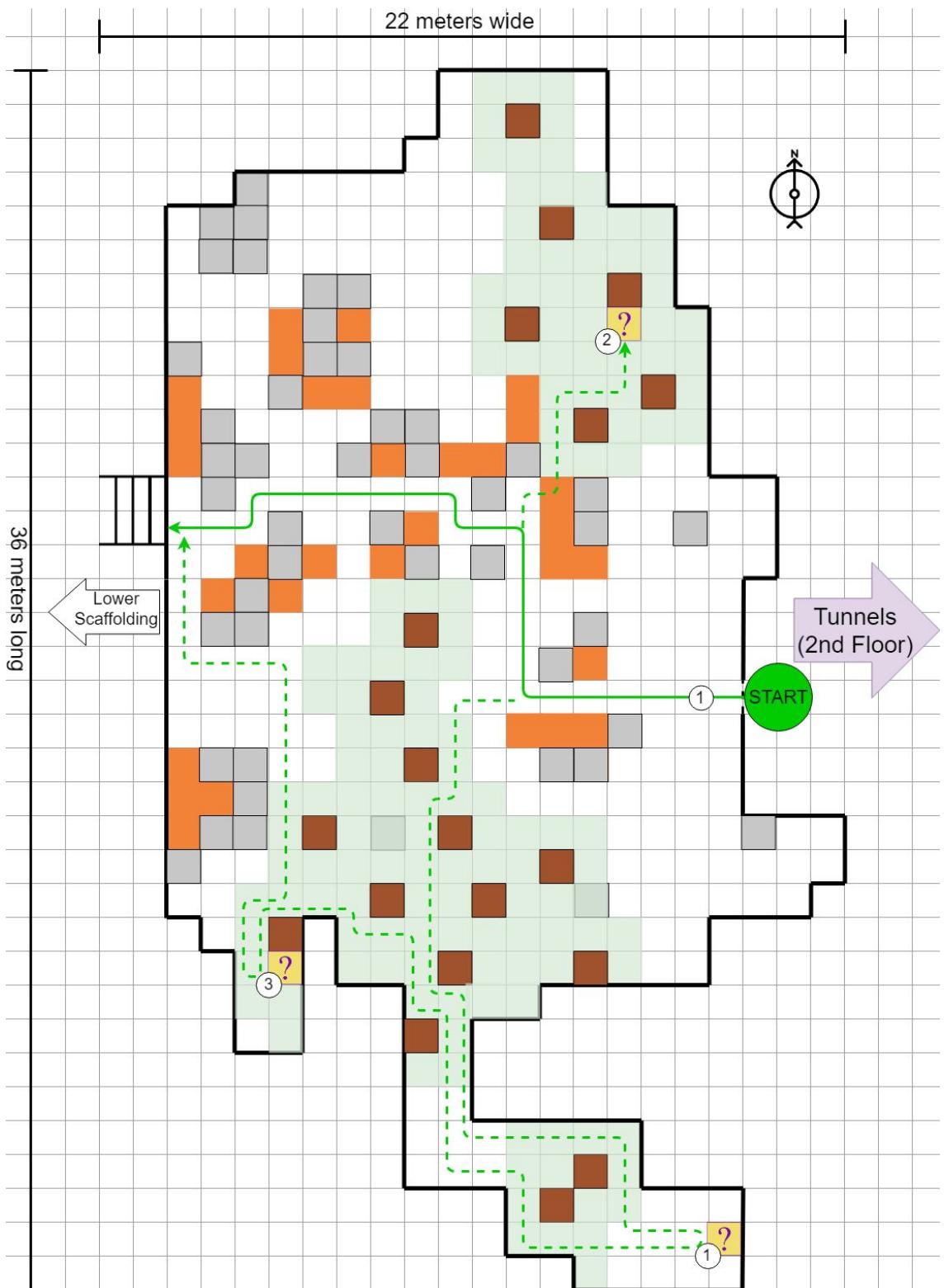
¹⁶ to know what to write in this collectible item, completed level diagrams of every other level are needed (see “[Collectible Items](#)” at page 28).

3.4 - Balconies



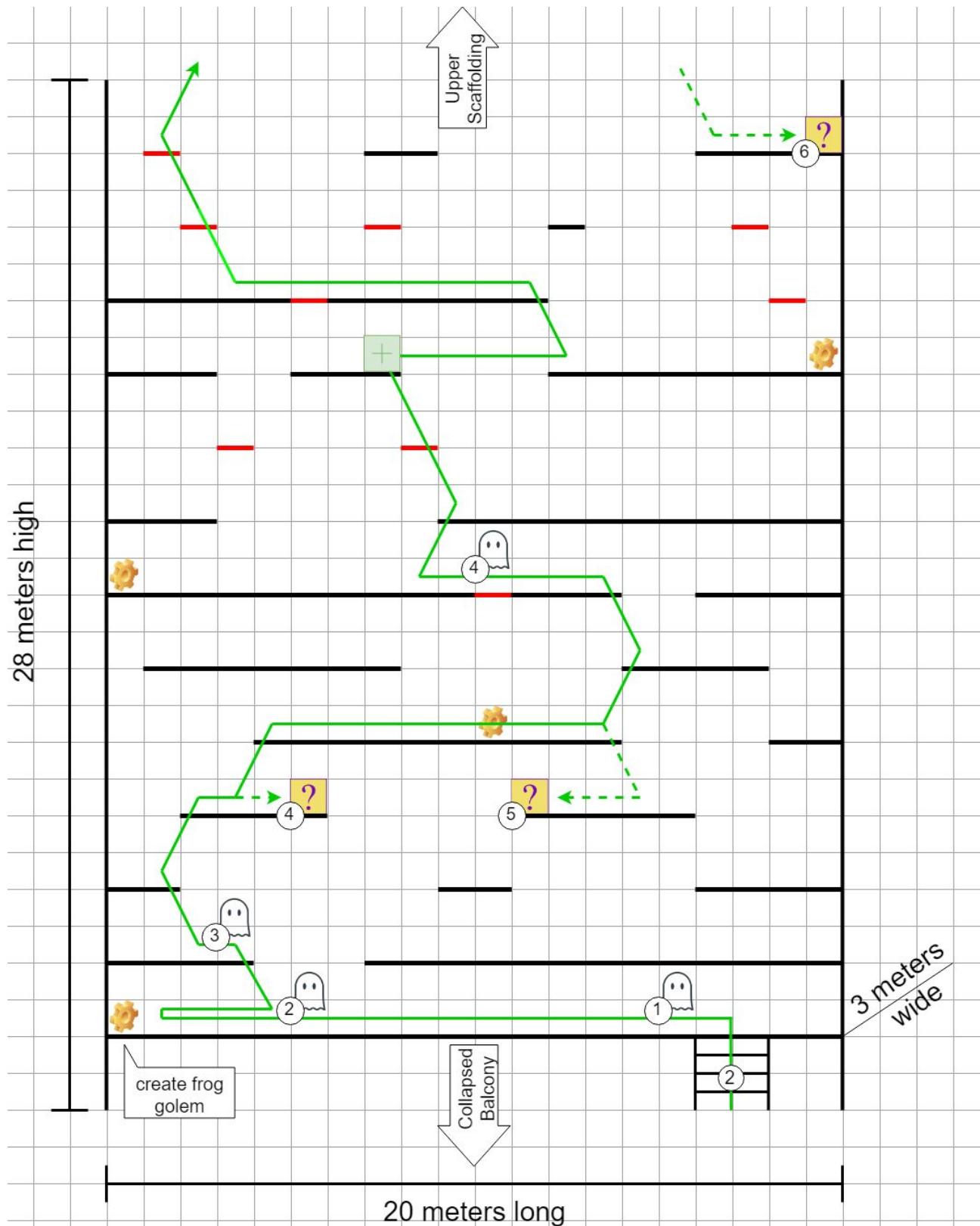
Area legend

3.4.1 - Collapsed Balcony



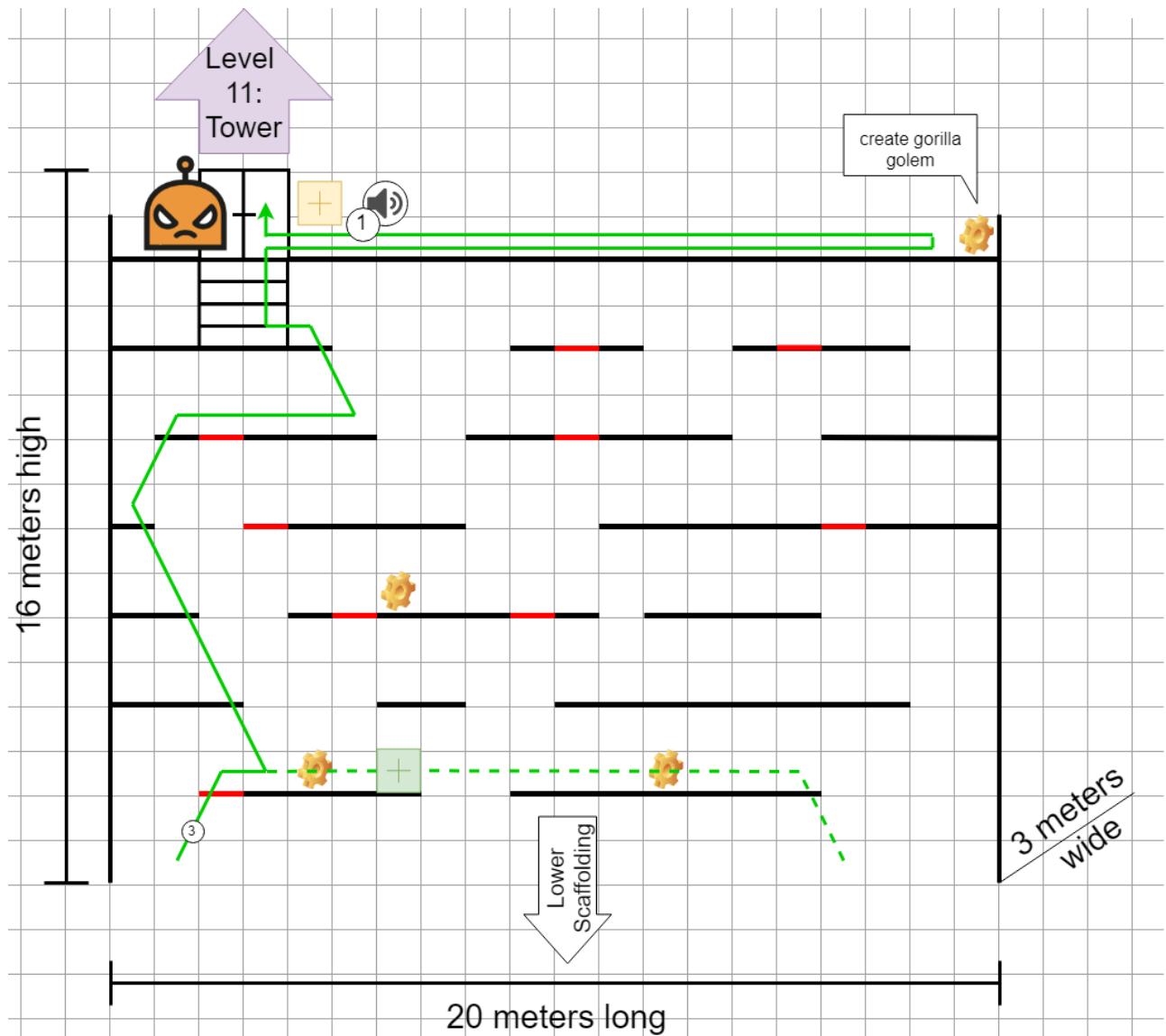
Complete view of the Collapsed Balconies

3.4.2 - Lower Scaffolding



Complete view of the Balconies Lower Scaffolding

3.4.3 - Upper Scaffolding (Level Boss Arena)



Complete view of the Balconies Upper Scaffolding, the area where the boss fight takes place

Detailed actions

START in map [CollapsedBalcony](#) (page 88)

1. Reach the lower scaffolding (move to map [LowerScaffolding](#) page 89);
2. Follow Izzet's instructions (dialogue [details](#) at page 117) and reach the upper scaffolding (move to map [UpperScaffolding](#) page 90);
3. Reach the door of the tower, fight and defeat the Steamsoldier prototype C (boss fight [details](#) at page 116). After the battle reach the "Tower" area.



Sounds

Ambient sound: wind is howling and the rain doesn't reach this place (covered by the tower), so there aren't rain sounds. Sophie makes a squelching sound when she walks on the mud. Every time the frog golem jumps, it makes a metallic sound when lands safely to a platform and a crashing noise when falls and breaks. Whenever an unstable platform is touched by someone it starts to shake and produces a metallic noise indicating it.

1. The door makes noise when is broken down by the gorilla golem.



Lighting

Ambient lighting: There's a soft light coming directly from the sky, under the trees is much darker and on the scaffolding there's a small slot every 10 meters with a dim light coming from inside every of them.



Treasures

1. Herb x3,
2. Mushroom x2
3. Mushroom x2
4. Coal
5. Coal
6. Mushroom x2

4 - Level Description

4.0 - General Informations

In this chapter the level is divided in four areas and described in detail. Each area contains five paragraphs:

1. **Detailed Description:** the area is described geographically and contains every meaningful detail of furnitures, dimensions and enemies that populate it. The purpose of the area inside the Steam-Castle is also explained. This paragraph is meant to be read alongside the respective level diagram.
2. **Color Palette & reference Images:** the set of colours that artists will mainly use for the area. There is also every picture that can help artists to understand how we imagine what we designed. In some of the images there are characters to help artists understand the dimensions of the objects. Next to every image there's a brief description with indications about how does it differ from our idea of the object.
3. **Flowchart:** it's a scheme that summarizes every event inside the area.

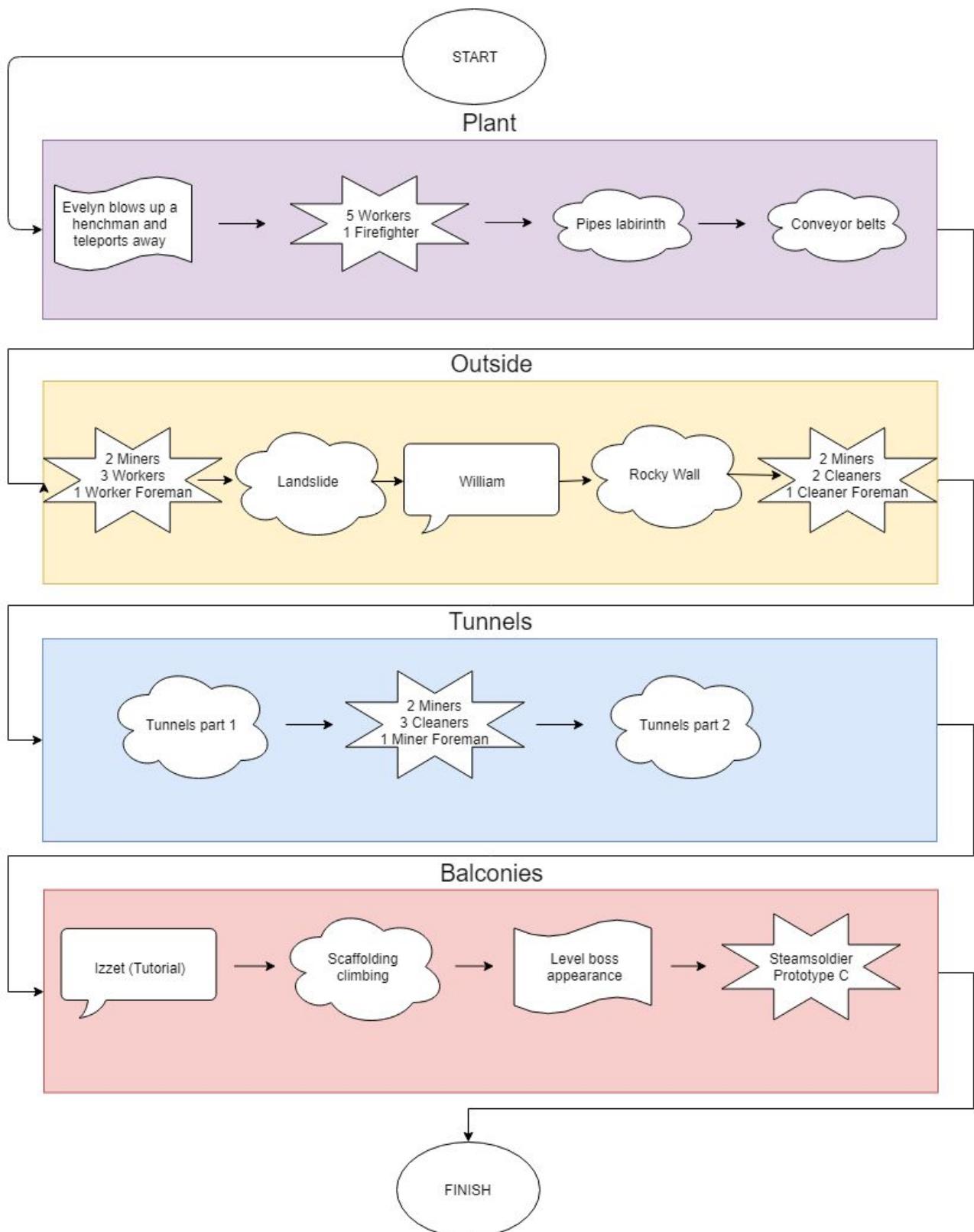
Area flowcharts legend:



4. **Encounter(s):** details about the number of enemies, their strategies, the difficulty and the estimated gameplay time of the encounter can be find in this paragraph. The state machine that explain schematically enemies' behaviours are under their respective sheets.
5. **Puzzle(s):** every puzzle and its solution will be described in detail here. There is also an estimation of the time needed to complete the puzzles.

Some areas may have a sixth paragraph:

6. **NPC interactions:** dialogues, state machines and every other relevant information about friendly non-playable character in the area.



"Waste Disposal Plant" complete level flowchart

4.1 - Plant

4.1.1 - Detailed description

This building has three floors and is approximately 21 meters long, 55 meters wide and 12 meters high.

Players enter through a door on the first floor at the western side (see the [area diagram](#) at page 16), on an metal catwalk. On the other side of the room there is a second identical catwalk. Beyond the railings, down to the ground floor there is a group of henchmen working.

The plant functions as follows:

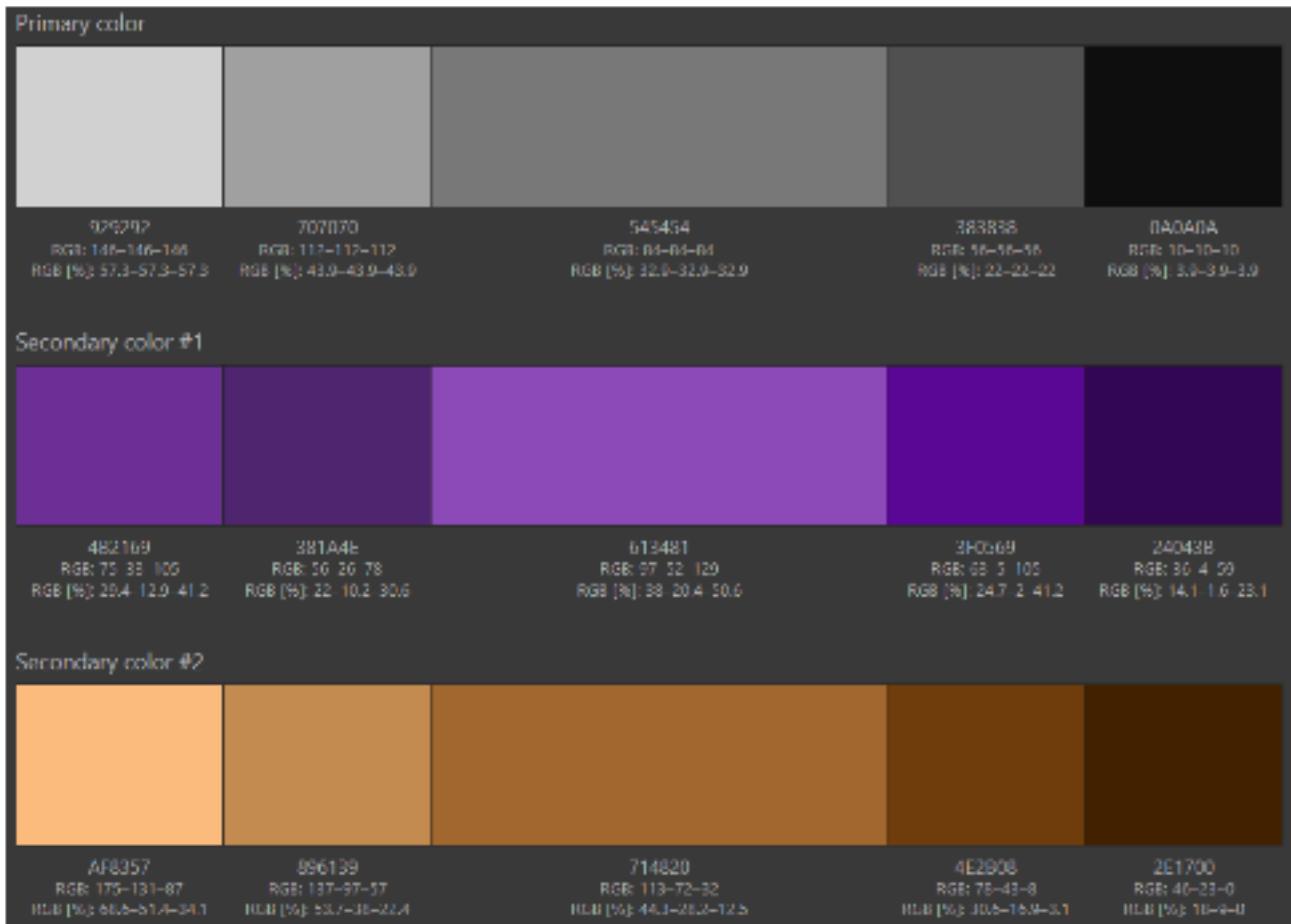
up to the second floor, there's a duct that expels the production waste of the factory, which are carried by a big conveyor belt to the south and north sides of the plant, going down to the first floor where there are the waste compactors. These machines receive waste and turn it into cubic agglomerations. These cubes are transported by conveyor belts which start from each waste compactor to disappear in small holes, leading to the waste dump in the depths of the Steam-Castle.

Behind the southern compactors there are silos containing poisonous liquid waste. Coming from these silos there are some pipes extending throughout the plant, which leak the poison down to the ground floor. For every square of poison puddle Sophie walks on, she must succeed a saving throw against poison, and if fails she takes 5 points of damage. If Sophie keeps standing on the poison, she must repeat the saving throw every 3 seconds.

There are also larger pipes carrying dangerously hot steam, which created some leaks in the pipes with its high pressure. From this leaks, jets of steam are emitted but its route can be altered by four valves distributed around the pipes.

All around the plant there are some barrels full of oil and many metal boxes, which are too heavy to be moved by Sophie (but not for her gorilla golem).

4.1.2 - Color palette & reference images



This plant of the factory is mainly grey, with the purple of poison coming out from the silos. A great amount of trash and debris gives to the area also some brown



Some silos and a catwalk. Silos are bigger than this but the visual style with these colours and these pipes is very close to what we've imagined.



The henchman on the bottom right of the picture should help to understand the correct dimensions of the silos.

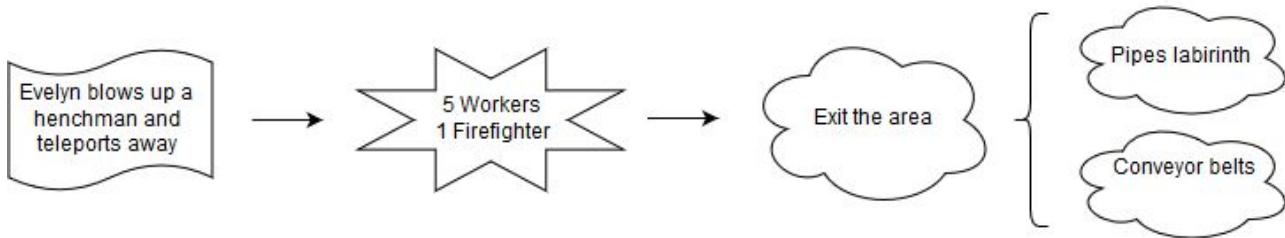


The waste compactors have this shape, but they're much bigger than this (see the [3D models](#) at page 98).



Conveyor belts are next to each other, like this. The waste cubes on it (which are bigger than this) derive from the compactors.

4.1.3 - Flowchart



4.1.4 - Encounter

Estimated time: 2 minutes

In this area players will face:

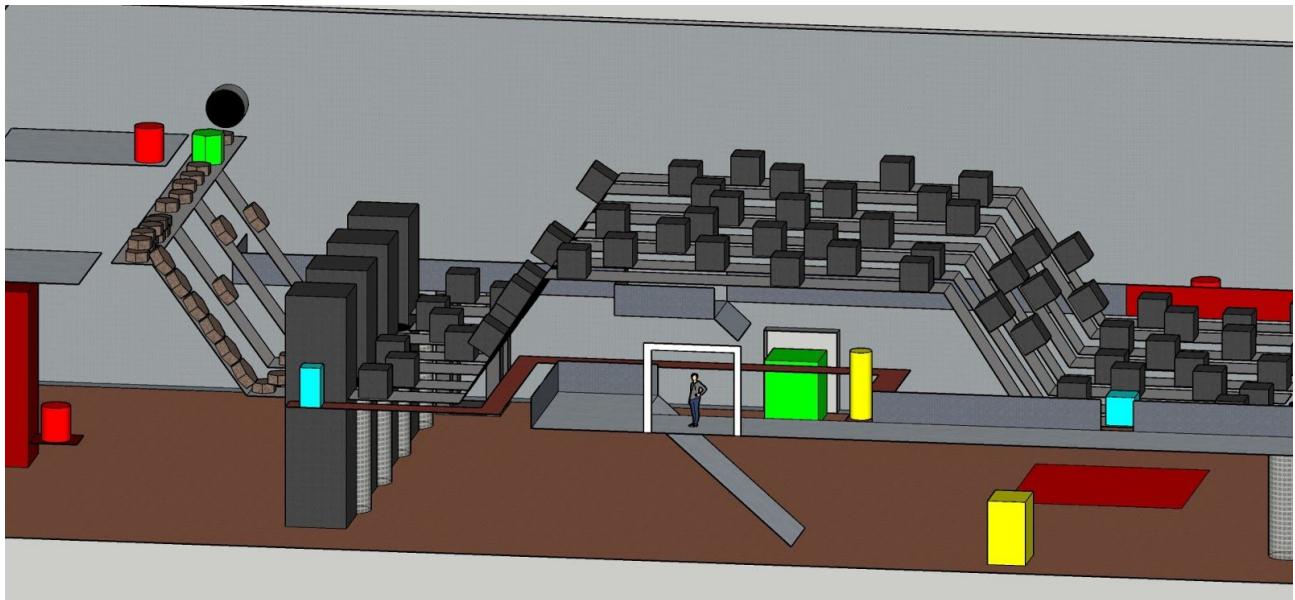
- 4x [worker henchman](#) (sheet and state machine at page 34)
- 1x [firefighter henchman](#) (sheet and state machine at page 40)

The firsts are checking the machines and carrying some boxes around, while the second is extinguishing the fire caused by Evelyn. When Sophie goes to the ground floor or attacks an henchman from the 1st floor, every henchmen will become alerted and the fight will start.

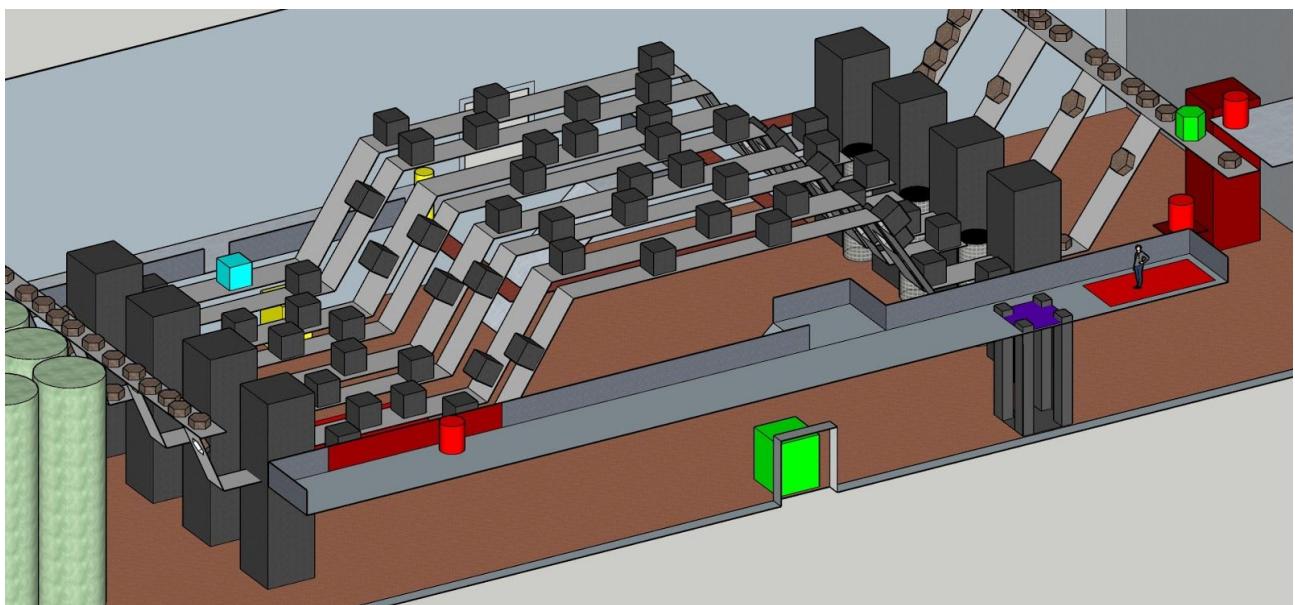
Worker henchmen will chase Sophie to attack her melee, but sometimes they might throw at her some of their working tools (dealing less damage). The firefighter will finish its work by the time that the encounter starts and will attack Sophie from the distance. Since there are many obstacles between it and Sophie, the firefighter will have some problems to find the right angle to attack. If Sophie reaches it to fight melee, the firefighter will respond melee too.

4.1.5 - Puzzles

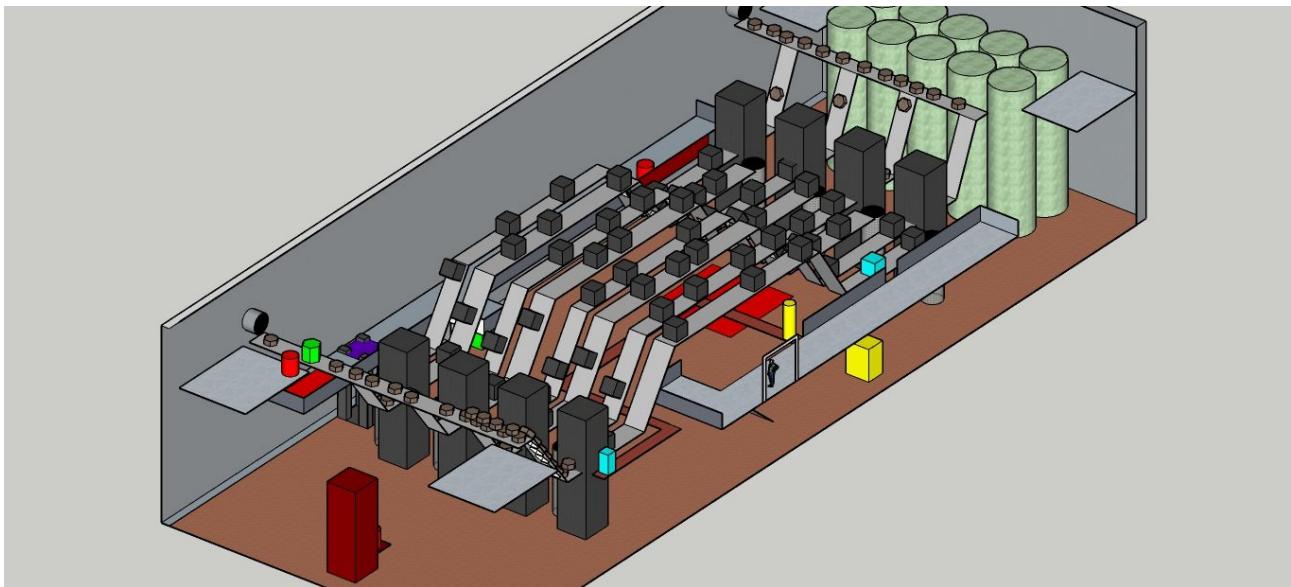
Estimated time: 15 minutes



Picture 1 - From this angle is visible every component of the first half of the puzzle



Picture 2 - From this angle is visible every component of the second half of the puzzle



Picture 3 - An overall view of the plant

Once the fight at the ground floor is over, players will notice that the exit is blocked by a heavy metallic box (the green cube in the first picture), so they need to drop some debris from the conveyor belt from the second floor to create the gorilla golem in order to clear the path to the exit..

Debris are never reachable by Sophie's telekinesis range, but it won't seem so until players will reach the closer spot (which is also the most intuitive one) from where they'll try to move the debris.

This place is the catwalk at the opposite side from the starting point, which is represented by the man in the middle of the first picture, that should also give an idea of the dimensions of the plant. The place where is the man in the second picture instead is where players want to go in order to be as close as possible to the pile of debris.

The only way to reach the catwalk it's to jump from a conveyor belt carrying the cubes to another, being careful to not fall because right down the belts there's a huge puddle of acid, leaked from the silos nearby (the green huge cylinders in the third picture). There's a narrow space between a break in the railing of the catwalk (that should look as it was clearly caused by an explosion, to suggest the players what to do with the railing of the opposite catwalk) that allows the player to jump onto the first belt.

Unfortunately, the path is blocked by a waste cube (in light blue, onto the right of the first picture) and the belt is still. The compactor connected to this conveyor belt clearly rattles and makes noise, so also here the player is guided to the next step.

Besides, the opposite catwalk is completely closed from the railing, so the player have to think about a way to blow it up.

So now players must do two things to advance:

1. take an oil barrel from the dispenser at the ground floor (the parallelepiped in red onto the left of the first picture), go to the red zone under the catwalk, use the telekinesis to put it near the red section of the railing and then blow it up with Calcifer's fire bolt.

Pipe puzzle

2. reach the point where the conveyor belt is blocked by a piece of metal (light blue onto the left in the first picture) and fix it. They can go there by walking on a labyrinth made of large pipes (see the details in the [level diagram](#) at page 59), but to have access to the labyrinth they first have to deactivate the steam jet coming from nearest pipe to the first catwalk (the yellow cylinder in the first picture) by using the valve at the ground floor (also in yellow). In this labyrinth, pipes are the corridors and the hot steam jets prevent players from passing through, but there are other valves within the labyrinth that the player can use in order to switch the steam jets from activated to deactivated or vice versa.

Valve A switches simultaneously jets number 1, 2, 5, 7, 11, 14, 15

Valve B switches simultaneously jets number 1, 3, 4, 8, 12, 13, 14

Valve C switches simultaneously jets number 3, 5, 6, 9, 10, 11, 12

Conveyor Belts Puzzle

Now players can reach the eastern catwalk by making a platform sequence where they jump from a moving conveyor belt to another.

There are 8 conveyor belts, 4 directed up and 4 directed down. The walkable part of all the conveyor belts is 8 meters long.

All of the conveyor belts move at a speed of 6 m/s. If Sophie is on one of them she will move along with them, if she goes in the opposite direction she will move at a speed of 3 m/s and if she goes in the same direction she will move at a speed of 15 m/s.

A total of 20 waste cubes are moving at the same time on the puzzle zone (initial state at page 59), and they repeat themselves following this pattern:

- first and second conveyor belt only have one cube throughout the whole length;
- third has two cubes at a distance of 6 meters;
- fourth has two cubes at a distance of 8 meters;
- fifth has three cubes at a distance of 4 meters each;
- sixth has three cubes at a distance of 5 meters each;
- seventh has four cubes at a distance of 3 meters each;
- eighth has four cubes at a distance of 4 meters each.

Players have to jump from one conveyor belt to the other, while avoiding the waste cubes.

If they miss the jump, they'll fall in the poison puddle beneath the conveyor belts and they'll have to start again the platform sequence. After every fall, Sophie will make a saving throw against poison to avoid taking 5 points of damage.

The green polygon at the top left of the first 3D model represents the spot where a pile of debris flows every 5 seconds before falling into a compactor. Once players have arrived to the eastern catwalk, they will find out that piles of debris aren't an object that can be moved with the telekinesis, and Calcifer will give an explanation to the players about that:

Calcifer:

"It seems like that piles are composed by too many small debris to be controlled as one single object, we need to think about something else"

If players already tried to do this in previous levels, they've already seen this dialogue and they will see it again at every attempt.

Back to the resolution, right next to the spot indicated by the green polygon there's a platform. Reached the 10th level of the game, players should be used to the exploding barrel mechanic, and they also just have seen another application of this mechanic a few minutes of gameplay before. So it will be quite intuitive to throw another barrel to that platform (in the red cylindric spot at the top left of the first picture) and blow it up to make the debris fall down to the ground floor, where they can easily reach them.

To take another barrel they can use the elevator on the second catwalk (coloured in purple in the second picture) as a shortcut unlockable from there.

Now Sophie can create the gorilla golem to exit the plant.

If players noticed an hidden item visible only from the northern catwalk (see the [level diagram](#) at page 19), they can make the spider golem to reach it before leaving the plant area.

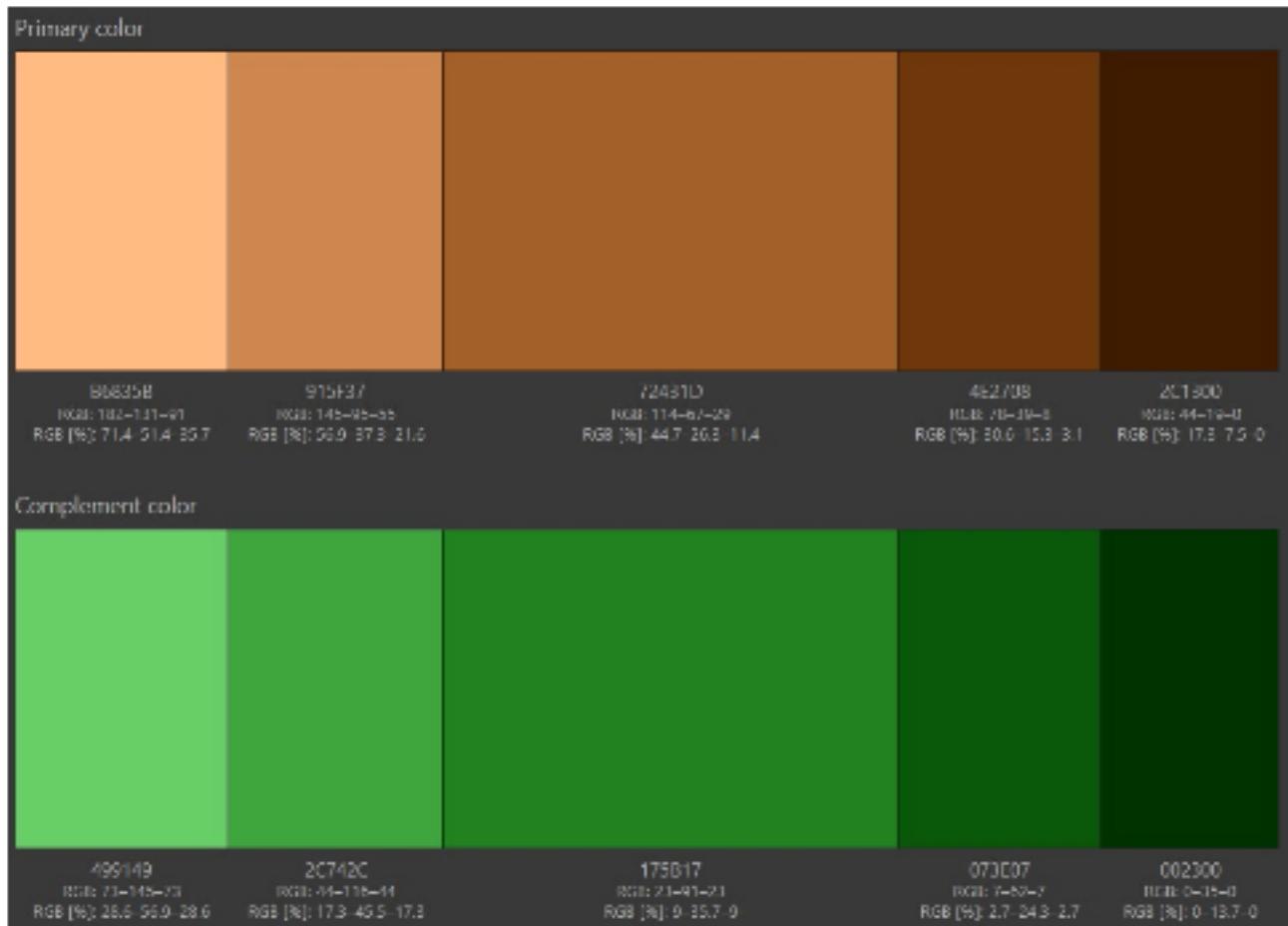
4.2 - Outside

4.2.1 - Detailed description

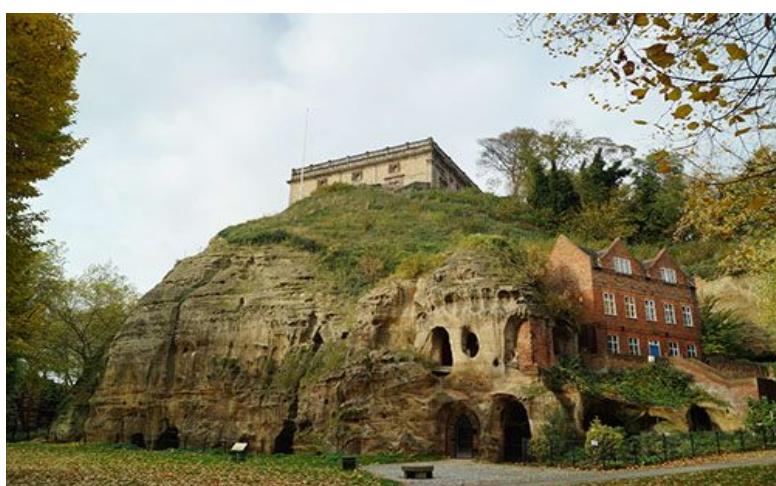
The second part of the level takes place in a 29 x 16 meters outdoor area located to the north-east of the castle. Leaving the plant, the outside area is a wild garden where henchmen stores their working tools. On its northern side there is the deep canyon that surrounds the Steam-Castle. On the southern side a flat stone wall was built to prevent damage to the structure due to the impervious weather conditions. There are some trees spread around the edge of the canyon and a tent where henchmen stores their tools. On the eastern side some rocks are spread around due to a landslide that occurred over the corner. Henchmen are clearing the path, while miners are breaking the rocks, the workers dispose of the debris throwing them in the canyon, but their work is slowed down by the weather. The landslide is 9 meters long and 17 meters wide.

Over the landslide, the rocky wall stands and it's area is 15 meters long and 15 meters wide. At the height of 20 meters, there is an access to a cave that leads to a system of tunnels, once mines rich of coal, now emptied. There are some cleaner henchmen up here getting rid of the water in the cave created by the landslide, and some miner working to stabilize the structure.

4.2.2 - Color palette & reference images



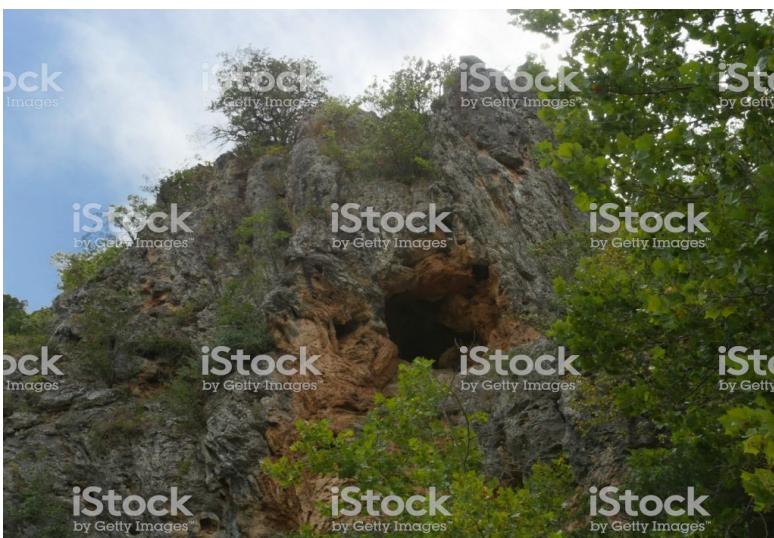
The outside area has lot of brown and green due to the vegetation, the soil and the rocky wall



The rocky wall with the tunnels and the castle above it. Our castle is bigger, but the picture still gives a hint about the conformation of the area.

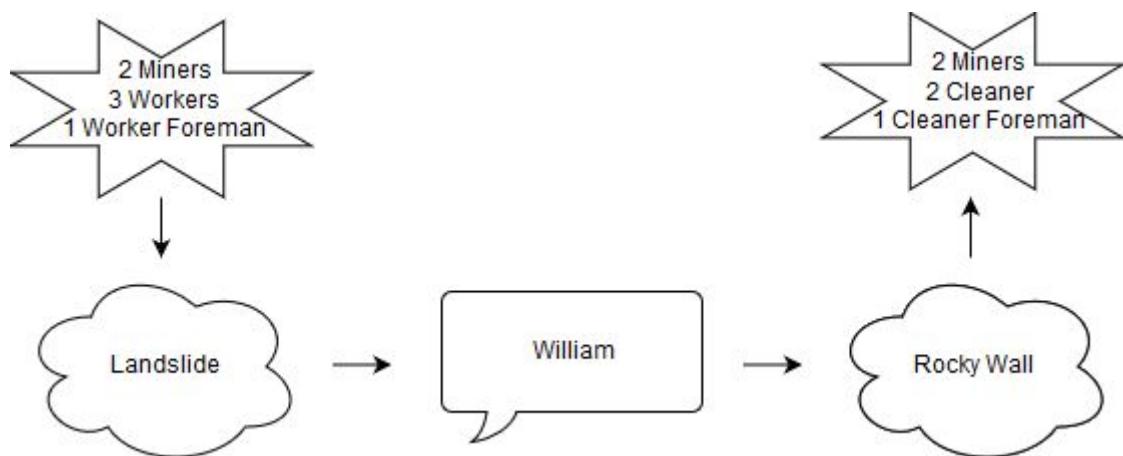


The landslide has divided the external area, with big rocks blocking the path. The landslide ends in the canyon that surrounds the castle.



The entrance to the tunnels is located in the middle of the rocky wall. Under the entrance the wall is climbable, and this must be evident to the player because the climbable segment is of a different colour. There are tree cleaner henchmen throwing down bucketsful of water from the edge.

4.2.3 - Flowchart



4.2.4 - Encounters

ENCOUNTER A - In the outside area

- 3x [worker henchmen](#) (sheet at page 34)
- 2x [miner henchmen](#) (sheet at page 36)
- 1x worker [foreman](#) (infos at page 42)

Estimated time: 2 minutes

Once players exit the plant, they can hear the sound of pickaxes coming from the distance. This is a hint to suggest they're about to face a type of enemy they already know, in case they need to prepare themselves. Sophie and Calcifer take damage out here because of the rain (1 point of damage every 3 seconds). Luckily the henchmen have put some tents to protect their tools and there are also some trees that can be used as shelters. Once Sophie and Calcifer will cross the point indicated in the [level diagram](#) (page 71), henchmen will immediately leave their jobs and attack them.

ENCOUNTER B - At the entrance of the tunnel

- 2x [miner henchmen](#) (sheet at page 36)
- 2x [cleaner henchmen](#) (sheet at page 38)
- 1x cleaner [foreman](#) (infos at page 42)

When the player will succeed in reaching the cave in the middle of the rocky wall, there will be a scripted event where cleaner henchmen will attack the spider golem and run to their starting positions (see the [diagram](#) at page 73). After the attack, the golem breaks and the battle begins.

4.2.5 - Puzzles

PUZZLE A - the landslide

Estimated time: 7 minutes

Once the battle in the “outside” area is over, players have to find a way to pass through the rocks fallen by the landslide and reach the rocky wall. However the whole field is completely wet, making it very difficult to use the mole golem to dig (Calcifer would be in severe danger with all that water). In fact only small patches of the ground are still dry thanks to the boulders and the trees who covered them. Players will have to use the *gorilla golem* to push some boulders as well as use the *spider golem* to climb over the damaged walls of the castle, until they can reach the few usable patch of ground, which will lead him to the other side of the landslide by using the *mole golem*. The detailed sequence of actions that needs to be done is immediately after the landslide [level diagram](#), at page 72.

Once the puzzle is completed, if the area is reloaded, thanks to the rains a new patch of soil will generate at the beginning of this area, allowing the player to reach immediately the end by using the *mole golem*.

PUZZLE B - the climbing

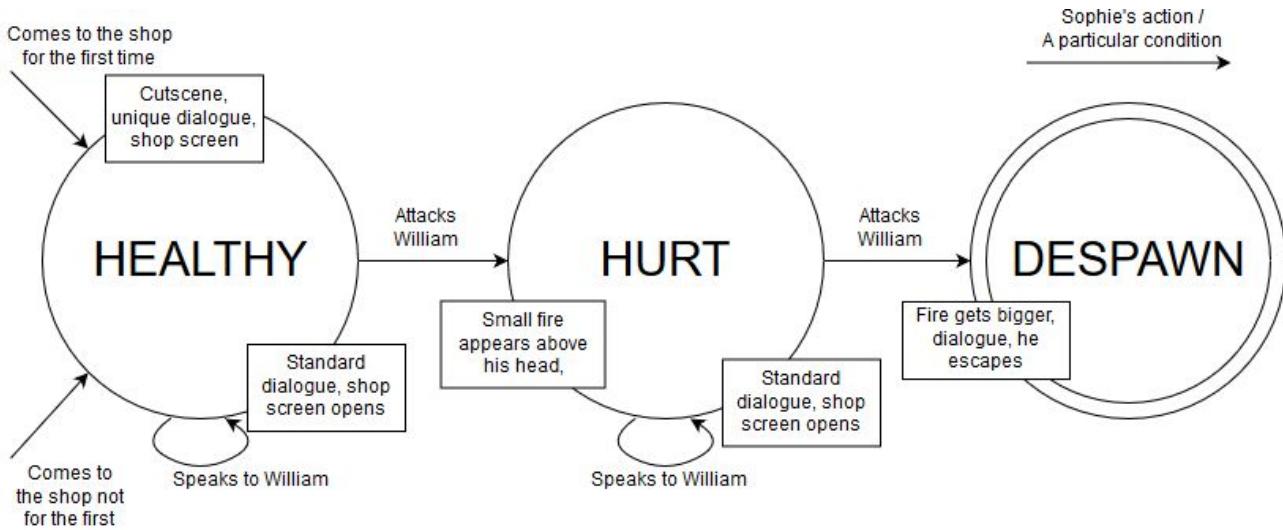
Estimated time: 2 minutes

After solving the landslide puzzle and after the cutscene with the npc William, Sophie and Calcifer must climb over the rocky wall, but 3 cleaner henchmen will throw bucketfuls of water from above. Players need to move quickly the spider golem in order to avoid the water, while keeping ascending until they reach the cave above. Being hit with such quantity could be a serious problem for Calcifer, who is very scared at the moment and shouts every time Sophie avoids a bucketful. Each time the players are hit by them, they will be damaged as they have been hit by a cleaner’s ranged attack (see its [sheet](#) at page 38) and will fall back to the beginning of the climbing.

The climbable wall is 5 meters (5 squares) wide and 20 meters tall. The three henchmen cleaners are placed at the square on the very left, at the square on the center and on the square on the very right. There are five lanes that the water can follow (1 for each square) and the henchmen will throw water every 5 seconds, following this pattern cyclically:

- water in lanes 2, 3, 4
- water in lanes 1, 4, 5
- water in lanes 2, 3, 4
- water in lanes 1, 2, 5

4.2.6 - NPC Interactions



Dialogues with William in the “Outside” area

S: Sophie - **C:** Calcifer - **W:** William

C: “There Sophie, quick! A shelter!” (Sophie and Calcifer run to William’s shop)

Unique dialogue:

W: “Oh! What a pleasant surprise: my dear customers! How strange to meet you here! I was looking for some mushrooms when I was caught by the flood, so I found this narrow dry place and I’m waiting it to stop... I think I’ve been here since about a week or something”

S: “A week? But... we saw you just... well, nevermind, who cares. I got some really interesting hats, do you want some?”

W: “Aww thank you, you are really kind. You know, I find hats really interesting items. Their shape is pure art, it reminds me of-”

S: “Could you PLEASE just show me what you got?”

W: “Yes, sir! I think you’ll like my stuff, It’s... HAT-omic!”

Standard dialogue:

W: “HAT your service!”

S: “You sure are a comedy genius.” (sarcastic)

If Sophie attacks him (a small fire appears above William’s head):

W: “Hm? What’s this smell?”

If Sophie attacks him again (the fire gets bigger):

W: “Damn it, the bacon! The bacon is burning!” (escapes screaming)

William shop table - “Waste Disposal Plant” level:

According to the location where William is met, the available items of his shop will change. This is the stock for the shop in the “Waste Disposal Plant” level.

For [more informations](#) about items and crafting mechanics see page 26.

Item	Description	Price
Mushroom	An edible mushroom filled with magical power. Restores HP.	2 hat
Coal	A piece of coal, the fuel used by Evelyn's steamsoldiers.	3 hats
Herb	Alchemic ingredient, combine it with other items to obtain something new	6 hats
Ash	Alchemic ingredient, combine it with other items to obtain something new	6 hats
Supercoal	Basically two pieces of coal sticked together. William seems very proud of its creation, but it doesn't seem very difficult to replicate. Fully restores MP.	99 hats

4.3 - Tunnels

4.3.1 - Detailed description

After the previous fight at the entrance, the cave is very silent and the only thing Sophie and Calcifer can hear are the drippings, that resonate through it. They find a little passage that leads to the tunnels, which once was a mine rich of coal, now empty. There's a complex system of galleries carved out in the rock. For this reason its rooms contain different items used by the henchmen miners, as well as some empty rectangular storage crates 1 meter tall and 1 meter long.

The tunnels are composed by a central room with three floors, 10 x 9 x 5 meters each. The central room is connected to different corridors of different shapes and length, each of them having approximately 2 meters of height.

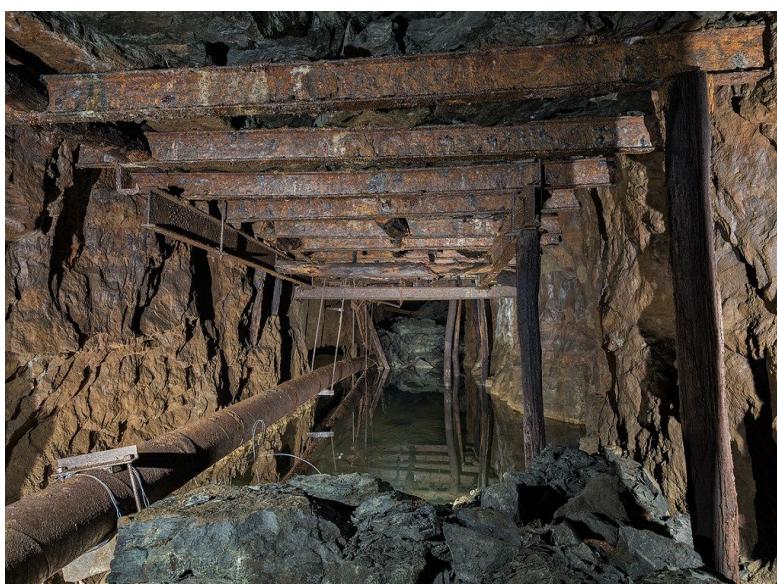
At the topmost floor there's a corridor which leads outside, on top of the rocky wall in the "Balconies" area.

Up above the room there's a hole produced from the landslide from which water falls and floods the area. For this reason some corridors now function as drainage channels. Three boulders approximately of the same height of the corridors are scattered around the area. Pushing these boulders so that they block or free one of the channels can raise or lower the water level in the central room and make the storage crates float to create temporary platforms.

4.3.2 - Color palette & reference images



The main element is water, that floods the area, so blue is the primary color. Since tunnels were dig in the rock, grey and brown are the complementary colors.



The corridors should be a little bit taller than this, but this image should give an idea of the environment.



Corridors are dug in the stone just like that. There are no stairs in the area but only ups and downs.

4.3.3 - Flowchart



4.3.4 - Encounter

Estimated time: 3 minutes

- 2x [miner henchmen](#) (sheet at page 36)
- 3x [cleaner henchmen](#) (sheet at page 36)
- 1x miner [foreman](#) (infos at page 42)

At the ground floor of this area there are some miner henchmen creating drainage channels and some cleaners helping them getting rid of water and mug. When Sophie will slide down to the floor where henchmen are working, they will immediately be alerted and the encounter will begin.

4.3.5 - Puzzle

Estimated time: 20 minutes

Players will start in the northern corridor of the first floor, leading to the central room.

The water within is raised at the first floor and so does the floating crates, but their placement doesn't allow them to be jumped on (state A, see the [level diagram](#) at page 77).

In order to reach the exit on the second floor they have to raise the water level by blocking both drainage channels with the two boulders and re-allocate the crates to use them as platforms (state C).

To do so, they first need to lower the water level so that they can reach the ground floor of the central room. This can be done by moving the first boulder that is blocking the channel of the ground floor reachable from a close ladder.

After draining the water they can use the slide from the first floor to reach the ground floor.

The second boulder necessary to block the first floor drainage channel is currently on the second floor and the player needs to bring it down to the first floor. To do so, they have to place the crates so that, once they raise the water level again, they can jump on them and reach the other side of the room (state B). At the ground floor there are shadows of the upper floors to suggest where to place the crates exactly.

From the southern side of the first floor, they can visit a small part of the second floor that will ultimately lead them to the third boulder.

Bringing this boulder to the ground floor acts both as a shortcut from this floor to the second, while also allowing the player to raise the water level and still be able to take this shortcut.

The player will then place the crates so that, once they block both drainage channels, the water will raise to the second floor and they will be able to reach the exit.

Once the puzzle is completed, if the area is reloaded, the boulder blocking the drainage channel of the ground floor will move by 1 meter to the left. This means that, in order to proceed the player has only to reach the ground floor and pull that boulder like in step 22 of the [detailed actions](#) at page 85.

4.4 - Balconies

4.4.1 - Detailed description

The last part of the level takes place on top of the rocky wall after exiting the tunnels.

The environment is similar to the outside area near the plant, but here blocks of iron and stones are scattered all around. The area is 36 meters wide and 22 meters long. There's a collapsed balcony, now in pieces spread everywhere, that caused the landslide in the area below. Henchmen have built a scaffolding to repair the damage, but right now it doesn't seem to be any of them in the nearbies.

On the southern and northern side of the area there are two group of trees. On the western side there is a ladder that leads to the scaffolding. The path to reach it from the tunnels exit is visually suggested by the mud and the disposition of the balcony rests, in this way the player will most likely go straight to the main path, and the hidden treasures will require a deeper exploration in order to be found. Next to the collapsed balcony, at the same height, there are several other balconies that surround the tower, each of them are 20 meters long and 3 meters wide.

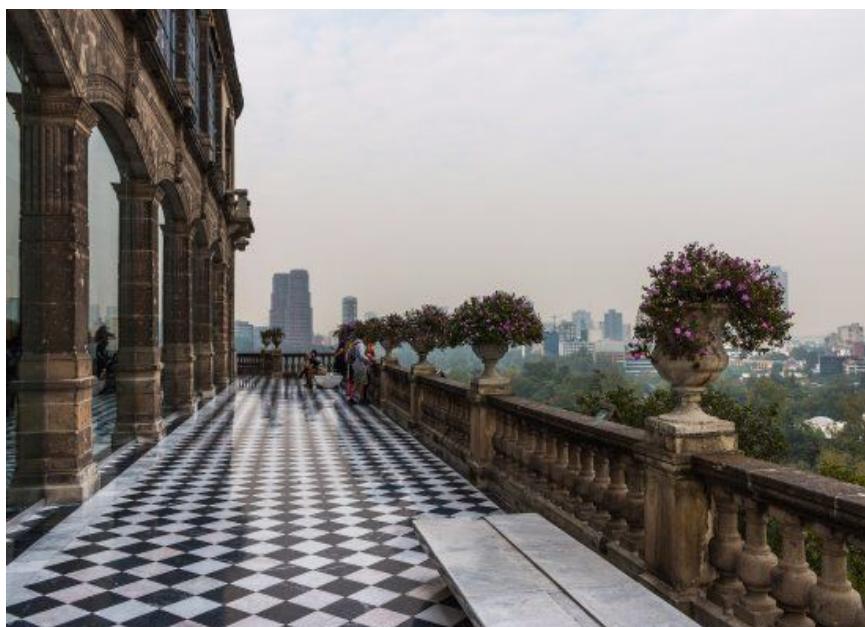
The scaffolding is made by pipes of iron and copper, footboards are made of wood and sheet metal. The storm strikes the western side of the tower now, so in this area the rain is not falling.

There are some windows here and there from which a fleable light comes out. The last floor of footboards leads to the damaged balcony, which has a huge door that takes inside the tower.

The height from the collapsed balcony area to the tower entrance on the intact balcony is 44 meters.

4.4.2 - Color palette & reference images

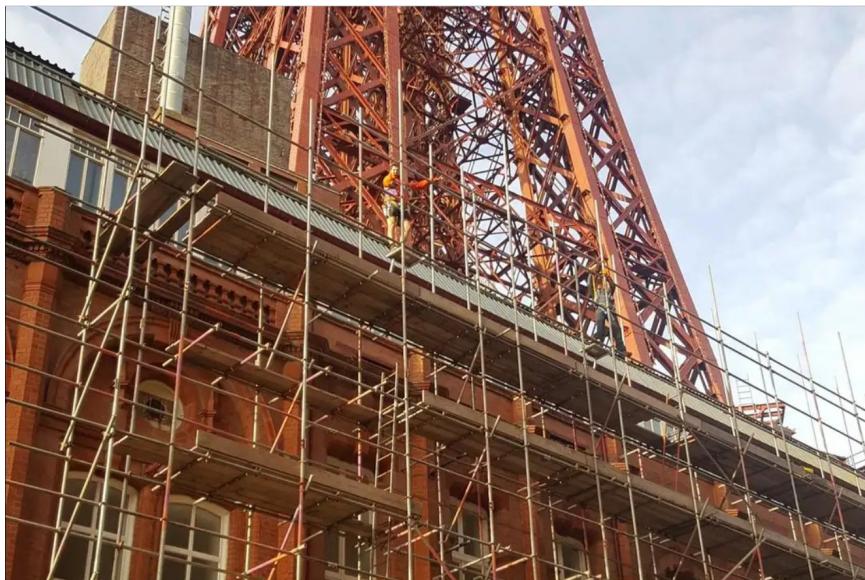
Primary color				
D25D10 RGB: 210 98 24 RGB [%]: 82.4-36.5-9.4	DD4000 RGB: 189 72 3 RGB [%]: 74.1-28.2-1.2	D06400 RGB: 164 100 51 RGB [%]: 72.2-39.2-2.0	974515 RGB: 151 69 21 RGB [%]: 59.2-27.1-8.2	013000 RGB: 129 48 0 RGB [%]: 50.6-18.6-0
Secondary color #1				
6F5E4D RGB: 111-94-77 RGB [%]: 48.0-36.9-30.2	905F2D RGB: 144-95-45 RGB [%]: 50.3-37.3-17.6	724516 RGB: 114-69-22 RGB [%]: 44.7-27.1-8.6	4D2700 RGB: 77-39-0 RGB [%]: 30.2-15.3-0	100901 RGB: 16-9-1 RGB [%]: 6.3-3.5-0.4
Secondary color #2				
68C063 RGB: 104-192-99 RGB [%]: 40.8-75.3-38.8	43A23E RGB: 67-162-62 RGB [%]: 26.3-63.5-24.3	288823 RGB: 40-136-35 RGB [%]: 15.7-53.3-13.7	0F6FDA RGB: 15-111-10 RGB [%]: 5.9-43.5-3.9	055E00 RGB: 5-94-0 RGB [%]: 2-36.9-0



This is how big the balconies that surround the castle look like. The style should be much more raw, without flowerpots and without a decorated pavement.

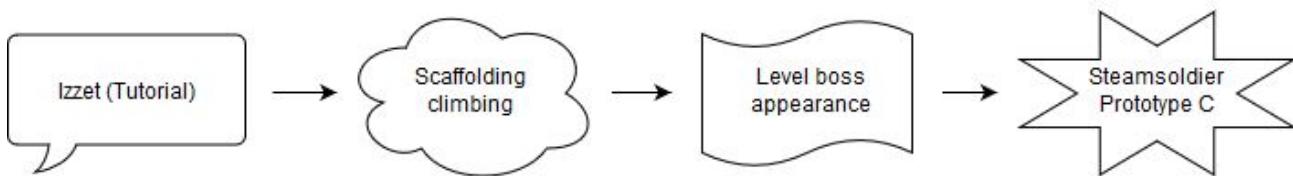


The broken pillars of the damaged balcony scattered around the area beneath.



The scaffolding has some gaps that the Frog golem can exploit to jump from one level to another and they look pretty similar to this picture.

4.4.3 - Flowchart



4.4.4 - Puzzle

Estimated time: 9 minutes comprehensive of Izzy tutorials (4.4.6)

In order to climb the scaffolding and reach the balconies on the top, the player must use the frog golem. This is a vertical-oriented puzzle, so the [level diagram](#) at page 89 shows a view in front of the scaffolding, and not from above like the other diagrams.

To make the level diagrams of this area much more readable, we considered every jump in height as an implicit frog golem action (Sophie can't jump that high by her own and the whole section is designed to be played with the golem just learned).

The scaffolding is made by two types of footboards (that from now on we will call "platforms"): the stable platforms (in black), on which players can stay as long as they want, and the unstable platforms (in red). This particular kind of platform shakes for 3 seconds after someone walks through it. If anyone walks on a shaking platform or stands on it for more than 1 second, it falls down to the first platform it meets on its way. If Sophie falls while she's on a golem, the golem breaks. If Sophie falls while she isn't on a golem, she takes 1d6 of falling damage for each 3 meters fallen.

Sophie can jump down by a single floor even without the frog golem, but she needs to animate it again in order to go back up.

Platforms are 3 meters wide, so it's possible to walk through the piles of debris because they aren't big enough to block an entire scaffolding in width.

4.4.5 - Boss Fight

Estimated time: 6 minutes

Like any other fight with a steamsoldier, also this one is like a dynamic puzzle.

In order to defeat the "Stemsoldier Prototype C" ([sheet](#) at page 51) Sophie must use the frog golem to jump up and down between the floors in order to avoid it. This prototype in particular is able to stick its limbs to the wall like the spider golem, with the difference that it can perform this action in every kind of walls. In order to attack, the steamsoldier must be standing on a platform. If it's climbing the wall to pursue Sophie, it won't attack.

Since every steamsoldiers is immune to Calcifer's attacks, the only way to defeat it is to take advantage from the environment: if Sophie attracts the steamsoldier on a shaking platform, it will fall to an inferior floor and it will be stunned for 5 seconds. While it's stunned, the steamsoldier is vulnerable, so if Sophie jumps on it with the frog golem it will deal 5d8 damages to it, and she will defeat it with a probability of 0.78 after 5 jumps and a probability of 0.99 after 6 jumps.

The steamsoldier doesn't pursue Sophie beyond the "Upper Scaffolding" section, which is basically the bossfight arena (see the [level diagram](#) at page 90). If Sophie leaves that section, the steamsoldier will fully heal itself and will wait for her in front of the door.

If Sophie is hit, she lose hit points but she never lose the concentration to keep the golem animated.

The reward of the bossifight lies over the door where the steamsoldier spawned (so it's in the first area of the next level) and consists of 18 hats.

4.4.6 - NPC Interactions

Dialogues with Izzet in the "Lower Scaffolding" area

S: Sophie - **C:** Calcifer - **I:** Izzet

1.

S: "This metallic thing could have been useful, but these platforms are too far from each other."

C: "Why don't you make the spider? We should be able to climb to that balcony."

S: "Unfortunately this wall is too hard for the spider, I'm afraid we must search for another way around the castle."

Izzet appears behind Sophie from underground.

I: "Or MAYBE you can use a golem able to jump high enough!"

S & C: "!!!" (they didn't expect him)

S: "Can you just stop popping out from nowhere like a damn bug??"

I: "I thought you needed my help..."

S: "..."

S: "... can you help us?"

I: "Well, if you ask nicely..."

C: "SUDDENLY WE'RE REALLY CURIOUS TO SEE IF GHOSTS CAN BURN! WHY DON'T WE GIVE IT A TR-"

I: "Fine, fine, let's get started"

(the screen turns black for 2 seconds, Izzet have taught to Sophie the frog golem)

I: "Now let's put it into practice: see the pile of debris over there? Try to animate the frog."

2.

I: "Excellent! Within the frog golem, you can jump for 2 meters high. Press **Enter + UP**¹⁷ from here to reach the next floor."

3.

I: "Good! The frog can also jump 5 meters wide. Press **Enter + RIGHT** to jump to the other side of the floor"

(after the jump)

I: "Obviously you can also jump down by pressing **Enter + DOWN**. But can you come back to the first floor without the golem? In case of emergency you will need to reach the debris!"

S: "Sure. That's not a big deal."

I: "Ok then. Dismount from the frog and animate it again and let's move up!"

4.

C: "Whoa! What's wrong with that platform?"

I: "If I were you, I wouldn't stand on those things for too long. Be careful not to lose the balance, otherwise you might fall. A fall longer than 2 meters will break the golem, not considering some of your bones if you happen to fall without my precious creation!"

S: "I guess so. However I think I understood how to use this one too. Thank you Izzet, you've been really useful"

I: "You're welcome Sophie. Time for Izzet to step back and enjoy the show! Byeee..." (his voice fades away with him)

S (at low voice): "Pathetic. Such a coward..." (disgusted)

C: "Sophie!?"

If the player interacts with Izzet during step 1 of the tutorial:

I: "What are you waiting for? Don't worry! Following my clever teachings nothing could possibly go wrong. Now reach the debris and animate a proper frog golem for me."

If the player interacts with Izzet during step 3 of the tutorial:

I: "Don't worry! I've made a lot of tests with this golem, you can totally jump this gap!"

¹⁷ Commands described here are examples and can be replaced

Story and Characters Section



Howl and Calcifer, the night when it all began

1 - Setting

The story is set in a [steampunk-style castle](#) surrounded by a canyon in a far away land. The nearby areas are rich of forests. Evelyn's "Steam-Castle", powered by the villain's two fire demons, contains a big factory used to build an army of steamsoldiers. The rooms of the castle contain all the parts of a production system, starting from resource gathering ([deforestation plant](#) + [mines](#), page 121), forging and assembly components ([boiler](#) + [assembly room](#), page 122), to the steamsoldiers [testing](#) rooms (page 123) and the [warehouse](#) where are stored (page 123). Projects and prototypes of the steamsoldiers can be found in [Evelyn's workshop](#) (page 124).

There's also a waste disposing system comprehensive of a [waste disposal plant](#) (page 124) and a waste dump. The waste dump is located in the depths of the castle after the [dungeons](#) (page 125). Due to the steam emissions of the factory, the castle is constantly washed by heavy rains.

The deforestation plant is on the other side of the canyon connected to the castle by a conveyor belt. Not far from it, deep inside the forest, there is a [small hut](#) (page 125), where the game begins and where William used to live.

1.1 - Steam Castle (Levels 5-19)



Foreshortening of the Steam-Castle (Kingdom Hearts - Square Enix)

1.2 - Deforestation Plant (Level 4)



The Deforestation Plant and the conveyor belt that connects it to the Steam-Castle

1.3 - Mines (Levels 15-16)



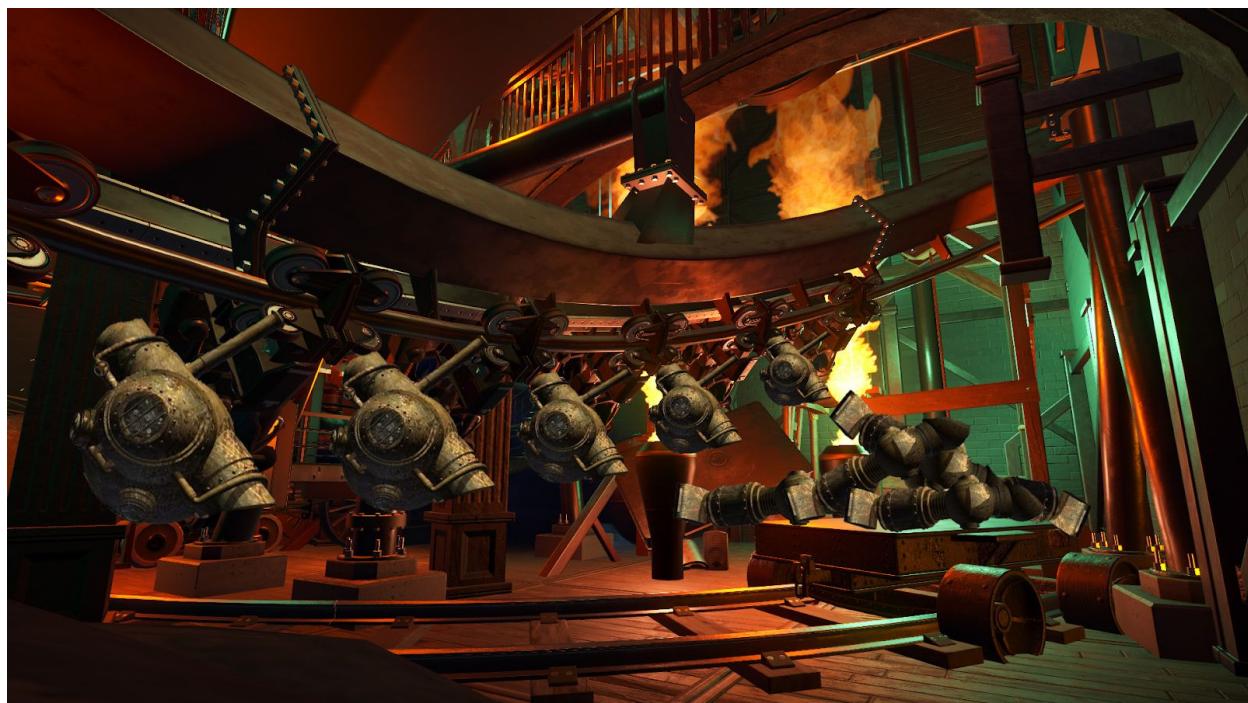
This place is where henchmen gather resources for the factory

1.4 - Boiler Room (Level 6)



In the boiler room lives Mephistofer, one of Evelyn's fire demons

1.5 - Steamsoldiers Assembly Room (Level 14)



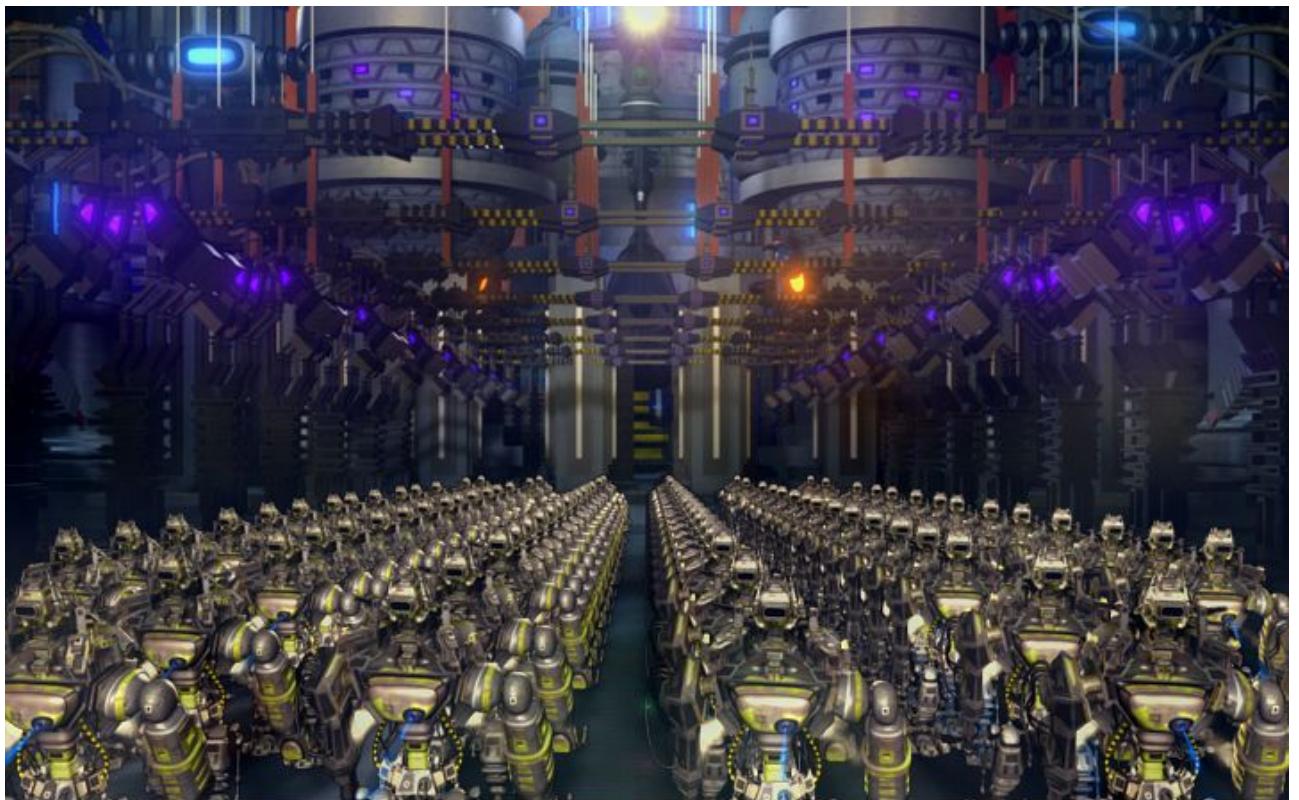
(Planet Coaster - Frontier Developments)

1.6 - Testing Room (Level 18)



Here henchmen verify if the steamsoldiers work properly

1.7 - Steamsoldiers Warehouse (Level 20)



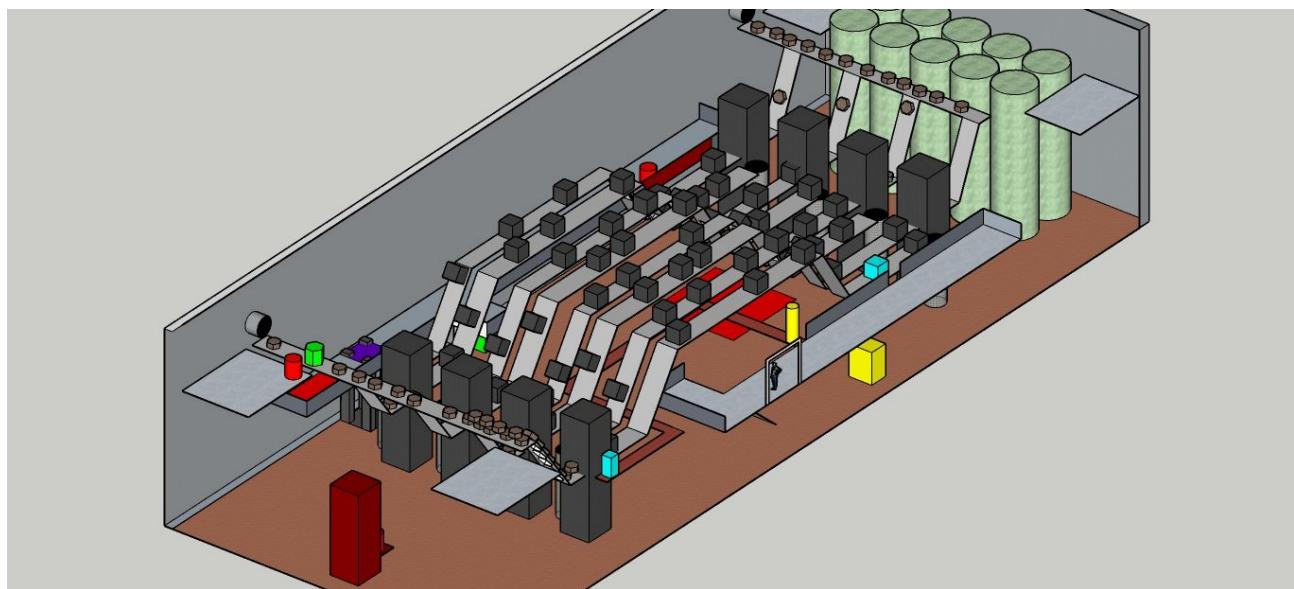
The place where Evelyn's army awaits to be activated

1.8 - Evelyn's Workshop (Level 17)



Where Evelyn conceived her inventions (Dishonored - Arkane Studios)

1.9 - Waste Disposal Plant (Level 10)



The main area of our developed level (SketchUp 3D model)

1.10 - Dungeons (Level 12)



The dungeons that leads to the waste dump (Acaratus - Nodbrim Interactive)

1.11 - William's Hut (Level 1)



The abandoned house where the game starts (Quentin Mabille)

2 - Synopsis

ACT 1 (Cutscenes leading to level 1)

1. Howl lives happily in the moving castle with Sophie and Calcifer. One day while walking on the streets of Kingsbury, he meets Evelyn, who casts a charm spell and orders him to reach her place. Howl, to avoid being discovered by Sophie, secretly links the moving castle to an abandoned house near Evelyn's Steam-Castle and then disappears.
2. Knowing from Howl about the link to the moving castle (where Calcifer resides), Evelyn sends an henchman to the house, that knocks at the door. He has a letter addressed to Calcifer, where it was written that the witch has kidnapped Howl and, in order to free him, the fire demon have to make a deal with her. Calcifer refuses and decides with Sophie to rescue Howl.
3. Sophie is scared because she's weak and Evelyn has two fire demons by her side.
4. Calcifer proposes a deal with her to make them both stronger: Sophie's heart in exchange of power, with the condition of using it solely to save Howl.

ACT 2 (From level 1 to level 19)

5. Sophie accepts and, from that moment, Calcifer is no longer free to move and Sophie gradually loses her kind-hearted attitude, becoming more selfish. Therefore they head towards Evelyn's Steam-Castle. In the moment Calcifer leaves the moving castle, he is no longer powering it and so it crumbles.
6. During their journey they travel through the Steam-Castle, fighting lots of henchmen (working in it) and making their way through impervious areas, thanks to Sophie's telekinesis and Calcifer's fireballs.

There are two more "guests" in the castle. In the stock room they meet William, a strange man strongly interested in hats. Sophie will give him the ones collected from defeated henchmen in exchange for useful stuff collected by him. William hasn't always been a madman: he has lost his identity due to a curse of the witch. Later on they arrive at the boiler room where Evelyn's fire demons reside and where they meet the second "guest", Izzet. He was a mage killed by Evelyn who stole his fire demon and cursed him to be a ghost bound to the castle forever. Knowing that Sophie has to fight Evelyn, he will gladly help her by teaching golem creation spells, in which he was an expert.

Sophie can help both of them, but she will expect some kind of reward:

William can be helped by finding his old hat in the mines, which helps him retrieving his memories;

Izzet can be helped by killing the abomination residing in the waste dump, that embodies the deal between Evelyn and Mephistofer. Doing this will let Izzet rest in peace (and Mephistofer will leave the castle).

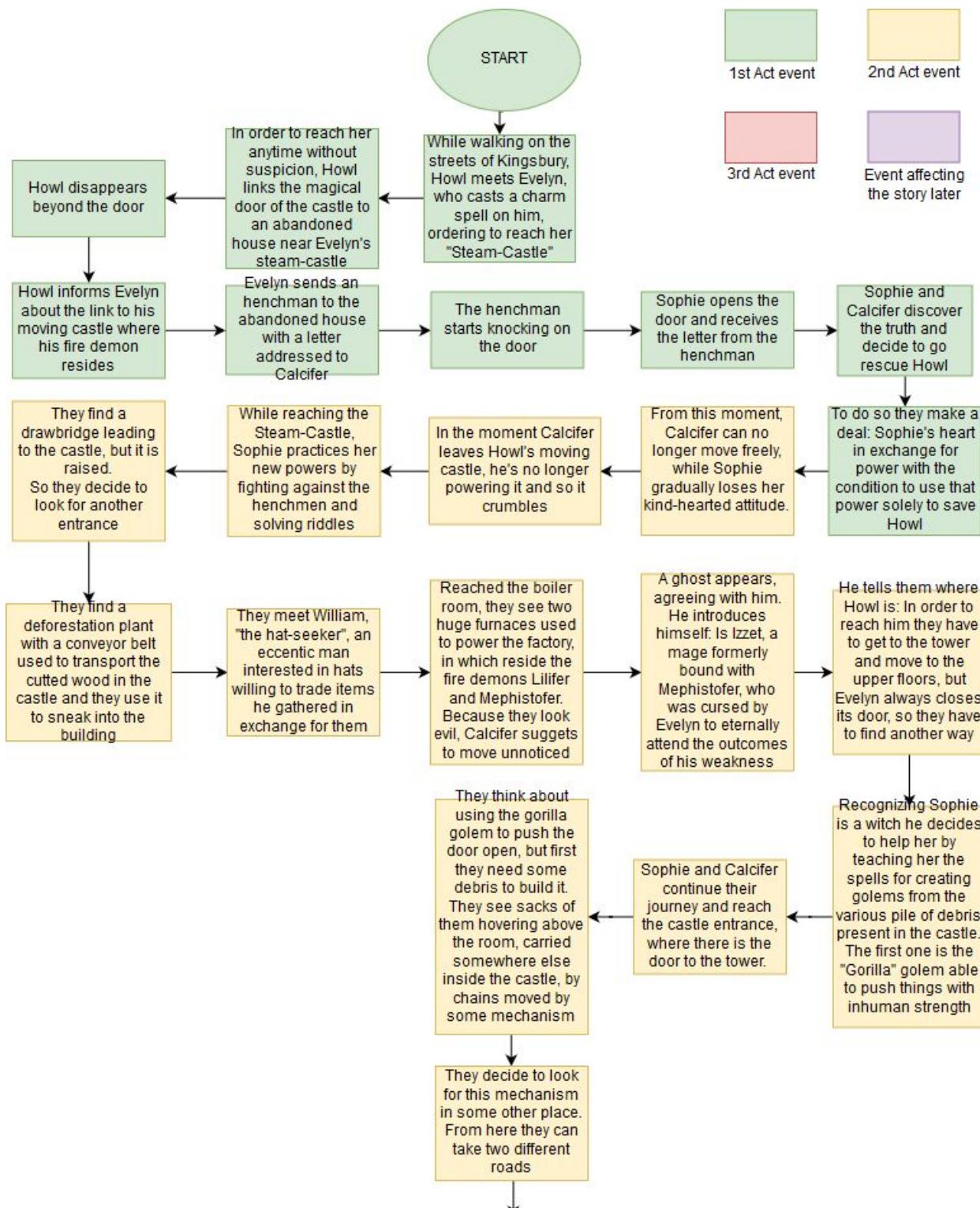
7. Finally they find the throne room where Howl is kept prisoner, but to free him they have to face the witch in a deadly fight. If William retrieved his identity, he'll help Sophie in the upcoming battle.

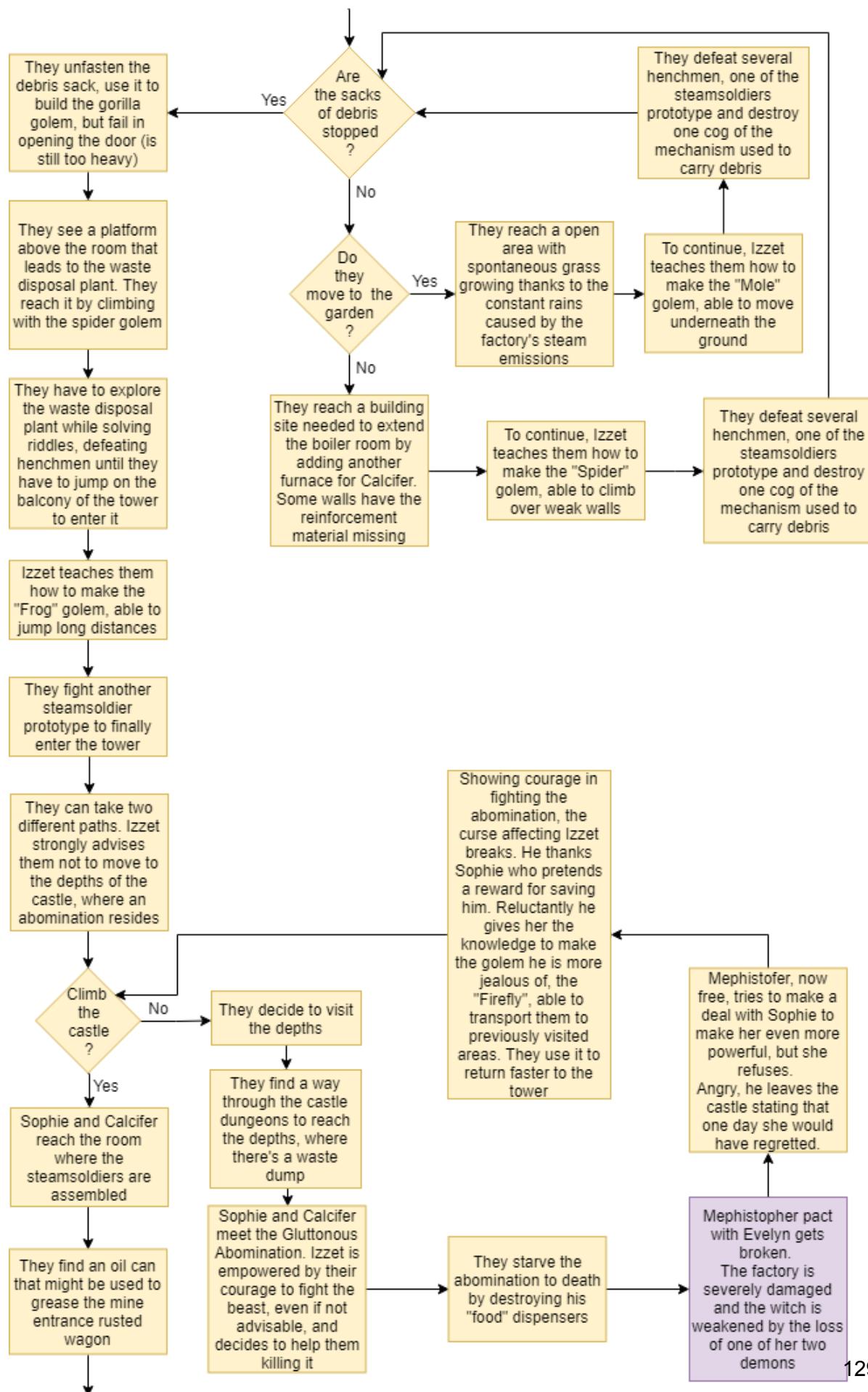
8. Sophie and Calcifer challenge Evelyn alongside the charmed Howl and her fire demon Lilifer (and Mephistofer if still present). Thanks to a clever strategy improvised during the fight and their joint powers, they manage to defeat the witch, who's spared.
9. Evelyn is left thinking about her evil deeds and how to redeem herself. The spell on Howl is broken so they can escape.

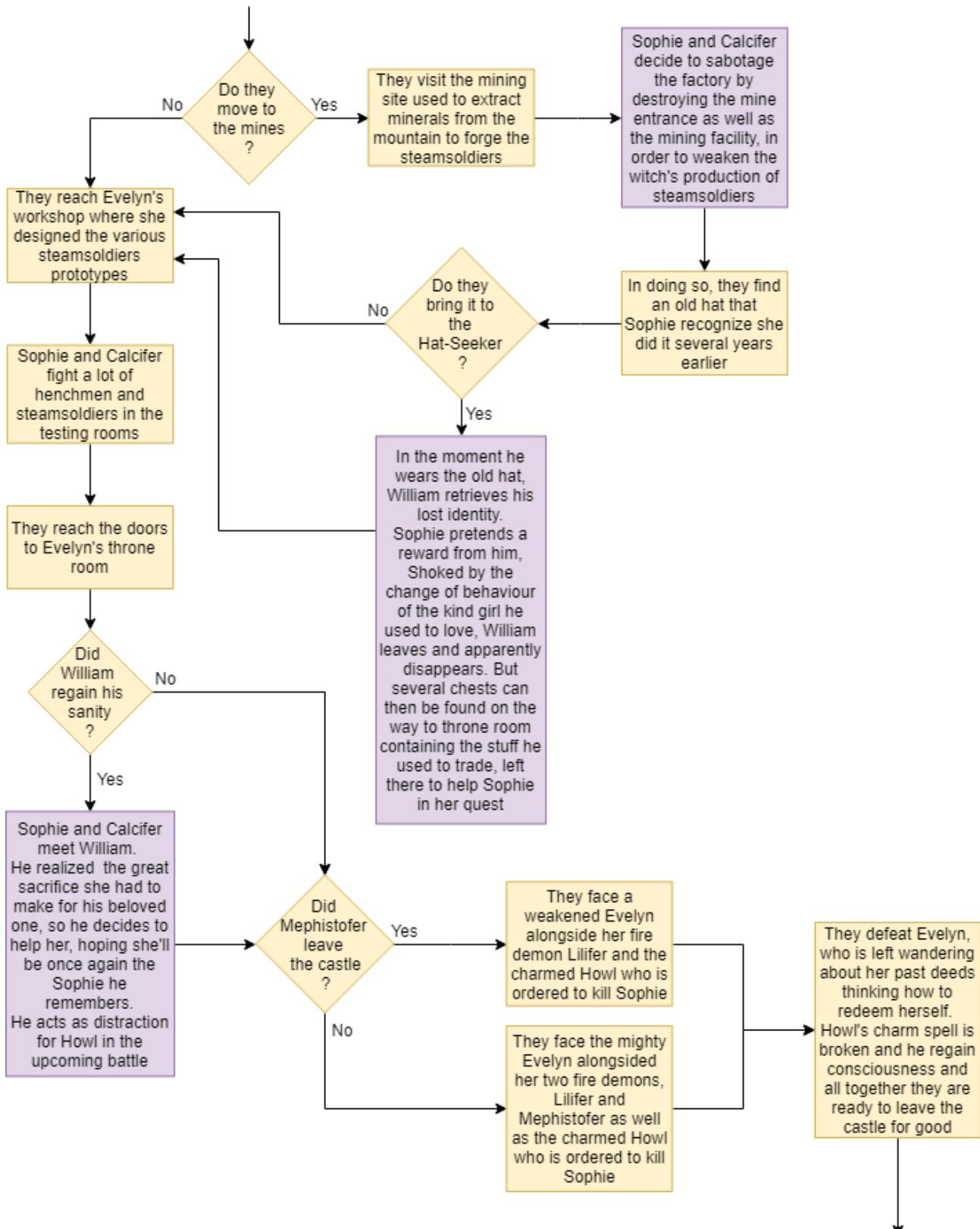
ACT 3 (From level 19 to level 20)

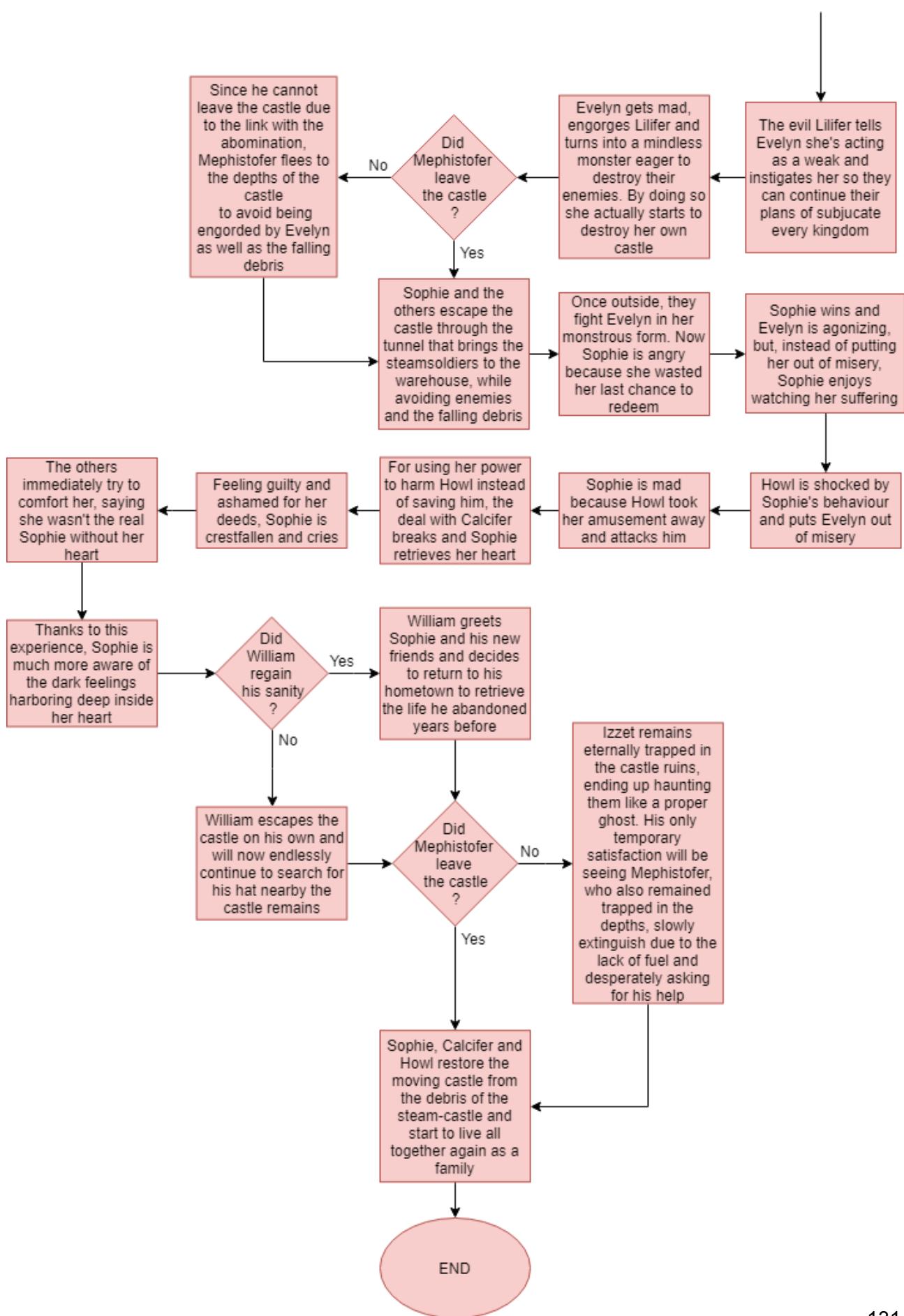
10. Lilifer persuades Evelyn to stay evil, so she gets totally mad and, engorging Lilifer, turns into a huge mindless monster eager to kill the heroes, destroying everything on her way. If Mephistofer is present, in order to avoid the falling debris as well as being engorged by Evelyn, he flees into the depths of the castle.
11. During the chase, they have to avoid the castle debris and several enemies until they reach the canyon, by escaping through the steamsoldiers warehouse. Once outside, they fight one last time Evelyn (in her monstrous form), but this time Sophie is angry because she wasted her last chance to redeem. Evelyn is defeated and left agonizing but, instead of putting her out of misery, Sophie enjoys seeing her suffering. Howl is shocked by Sophie's attitude and kills Evelyn. Sophie gets mad because Howl took away her amusement and attacks him. In that moment the deal with Calcifer is broken, because she used their power to harm Howl, instead of saving him. Retrieved her heart, Sophie feels guilty and is ashamed for her deeds, but the others immediately comfort her, saying she wasn't the real Sophie without her heart. She greatly grows up from this experience, because is much more aware of the dark feelings harboring deep inside her heart.
12. They restore the moving castle from the debris of Evelyn's Steam-Castle and return to live all together again as a family. William, if sane, will return to his previous life in Market Chipping, while if he's still mad, will wander nearby the castle remains eternally in search for his hat.
If the abomination representing the deal between Evelyn and Mephistofer wasn't killed, Izzet will remain trapped in the depths of the castle forever.

3 - Story Flow Chart



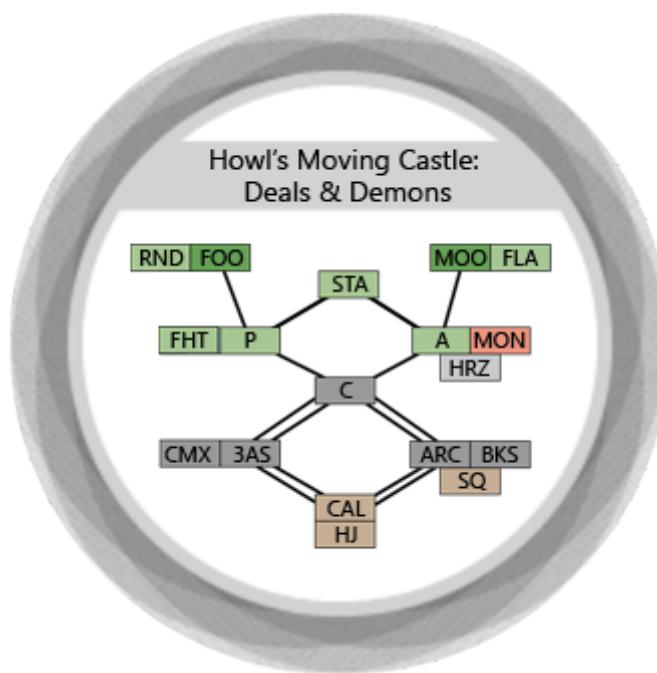






4 - The Periodic Table Of Storytelling

The Periodic Table of Storytelling (<http://jamesharris.design/periodic/>) looks like the notorious one with chemical elements, except instead of them there are various storytelling-related tropes (plot devices, archetypes and patterns). Every story can be summarized in a story molecule that can be formed combining story elements. This is the molecule of our story, every trope used is listed below:



- **[C] Conflict:** Evelyn kidnapped Howl. Calcifer and Sophie want him back with them.
- **[3as] Three Act Structure:** The story goes through a Setup act (introduction of characters, setting and context), evolves with a Confrontation act (meeting with William and Izzet, encounters with enemies and riddles) and ends with a Resolution act (the climax reaches its peak with the final battle against Evelyn, then everything returns back to normal)
- **[Cmx] The Climax:** the final battle has an high impact, involving nearly every character in game.
- **[Bks] Backstory:** William and Izzet have two deep backstories that heavily explain their behaviour during the whole game.
- **[Arc] Story Arc:** Sophie and Calcifer have to deal with a new menace that comes after the events of "Howl's Moving Castle".
- **[Sq] Status Quo Is God:** the situation before and after the events of the game is nearly the same. At the end Sophie, Calcifer and Howl will live again in the moving castle together.
- **[Cal] Call To Adventure:** a henchman gives to Sophie a letter where is written about the kidnapping. Once she and Calcifer read it, they go to rescue Howl.

- **[Hj] The Hero's Journey:** Sophie crosses all of the three stages of this pattern: she leaves the castle, completes her quest with her new powers and returns to her previous life.
- **[Hrz] Moral Event Horizon:** After the final battle, Evelyn will be spared, but will fail to redeem herself: she'll have a mental breakdown and will become a mindless monster seeking only destruction. From that moment she will be irredeemably evil.
- **[P] Protagonist:** In our story is Sophie.
- **[A] Antagonist:** Evelyn, a powerful witch.
- **[Rnd] Rounded Character:** Sophie gradually loses her kind-hearted attitude during the quest due to the deal made with Calcifer. In the end she's also becoming evil, but once the contract is broken she will turn good again and feel guilty for the bad feelings harboring in her heart. William changes a lot too: before the events of the story, he became an hermit due to the relationship between Sophie and another man, but in the end he will accept it overcoming his love disappointment.
- **[Fla] Flat Character:** Mephistofer and Lilifer only have the essential characteristics in order to work properly inside the story as side-villains.
- **[Sta] Static Character:** Calcifer, Howl, Evelyn and Izzet at the end of the story keep pretty much the same personality they had at the beginning.
- **[Fht] Face Heel Turn:** During the game Sophie slowly becomes evil due to the deal she made with Calcifer at the beginning of the story.
- **[Moo] Mooks:** The henchmen, the standard enemies.
- **[Foo] The Fool:** William for most of the story is completely mad. In this state he's a good, funny guy that seeks hats for apparently no reason.
- **[Mon] Complete Monster:** Evelyn enjoys to watch people suffer, she doesn't care about anybody and in the end she even becomes a mindless monster.

5 - Themes / Topics addressed

Overcoming your weaknesses

Sophie isn't a violent person and isn't ready to fight, so she must show her warrior spirit against the enemies to save her beloved one.

William reacted to his love disappointment by escaping from his reality and becoming an hermit. During the game he will have to accept Sophie's love for Howl and then come back to his previous life.

Friendship

Calcifer's will to save his former master Howl and to help Sophie rescuing her beloved one symbolize the fulfillment of the character's evolution: once a selfish being, now a powerful friend you can count on. During the adventure he and Sophie will face many dangers, so their relationship gets more and more strong.

Facing the shadows of your past

Izzet have failed in respecting his deal with Mephistofer, and now he must find a way to take revenge on the fire demon and Evelyn.

She, instead, never truly faced her past: she grew up alone doing her best to survive accustoming herself in doing bad things, and slowly became the evil monstrosity she is right now.

Love

Just like in "Howl's Moving Castle", this sequel tells about the relationship between Sophie and Howl. The story is also about the broken-hearted William who discovered that Sophie, his beloved one, has left with another man.

Foolishness

William's desperation after losing himself lead him to madness and his side-quest is about recovering his mental sanity. Evelyn has completely lost any common sense, with her mind filled with wickedness and ambition. Only in the end she'll have a chance to redeem, but she will fail.

6 - Characters

6.1 - Sophie Hatter

6.1.1 - Description

Sophie is a young woman with brown eyes and long silver hair due to the curse she received by the Witch of the Waste.



She tries to act kindly and to be altruist with everyone, even those who mistreat her. For this reason she seems to be goofy, but indeed she is a very strong and independent woman.

Usually, she acts carelessly, but feels very bad if she does something wrong, even though her attempts to remedy, most of the time, results in worsening the problems.

She also discovered to be a witch and only recently started to develop her dormant powers. Right now she's used to object manipulation and telekinesis.

Along with Calcifer they're on a quest to find and save their beloved Howl, even if that means risking her life by making a deal with the fire demon and fighting a powerful witch. Due to this contract, Sophie gradually loses her kind-hearted attitude.

6.1.2 - Backstory

Being the eldest of Mr. Hatter's daughters, she was in charge of managing his hat shop from the day of his death.

While she was a pretty and independent girl, she underestimated herself a lot.

One day, during a walk, she encountered the mighty wizard Howl, known to steal and devour the heart of pretty girls. Alongside him they escaped from strange figures, called the henchmen, sent by the Witch of the Waste to track him down, after he ended their relationship.

Seeing Howl interested in another girl, the witch was furious and followed Sophie to her hat shop where she casted a curse that turned her in a 91-years old woman.

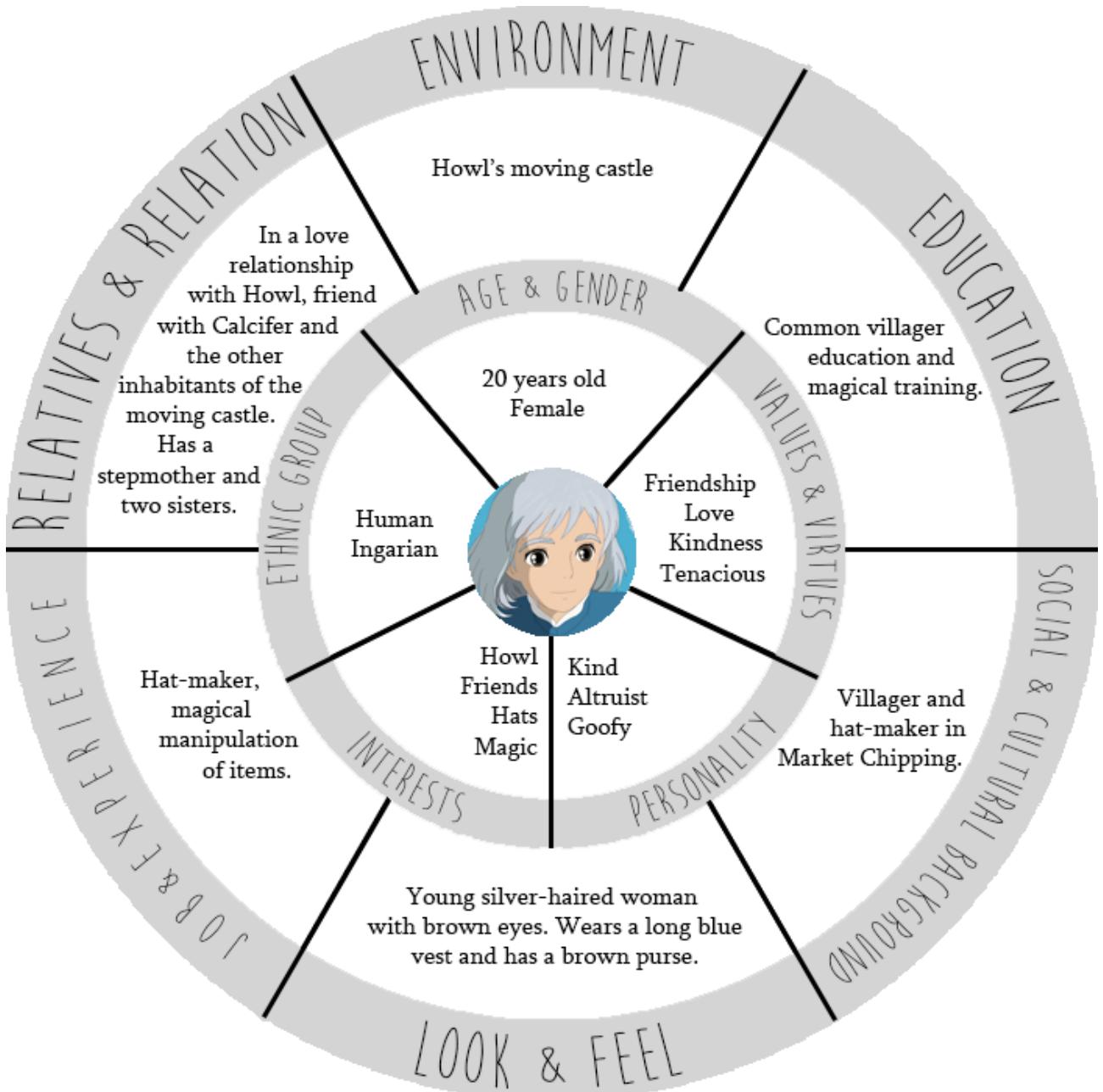
Looking for a cure, Sophie left the town and came across Howl's moving castle where she found shelter. There, she met the fire demon Calcifer, who promises to break her curse in return for her help in breaking the deal between him and Howl. When the mage came back, he accepts her in the castle as housekeeper.

There, she discovered to have some latent magical powers that she had to develop.

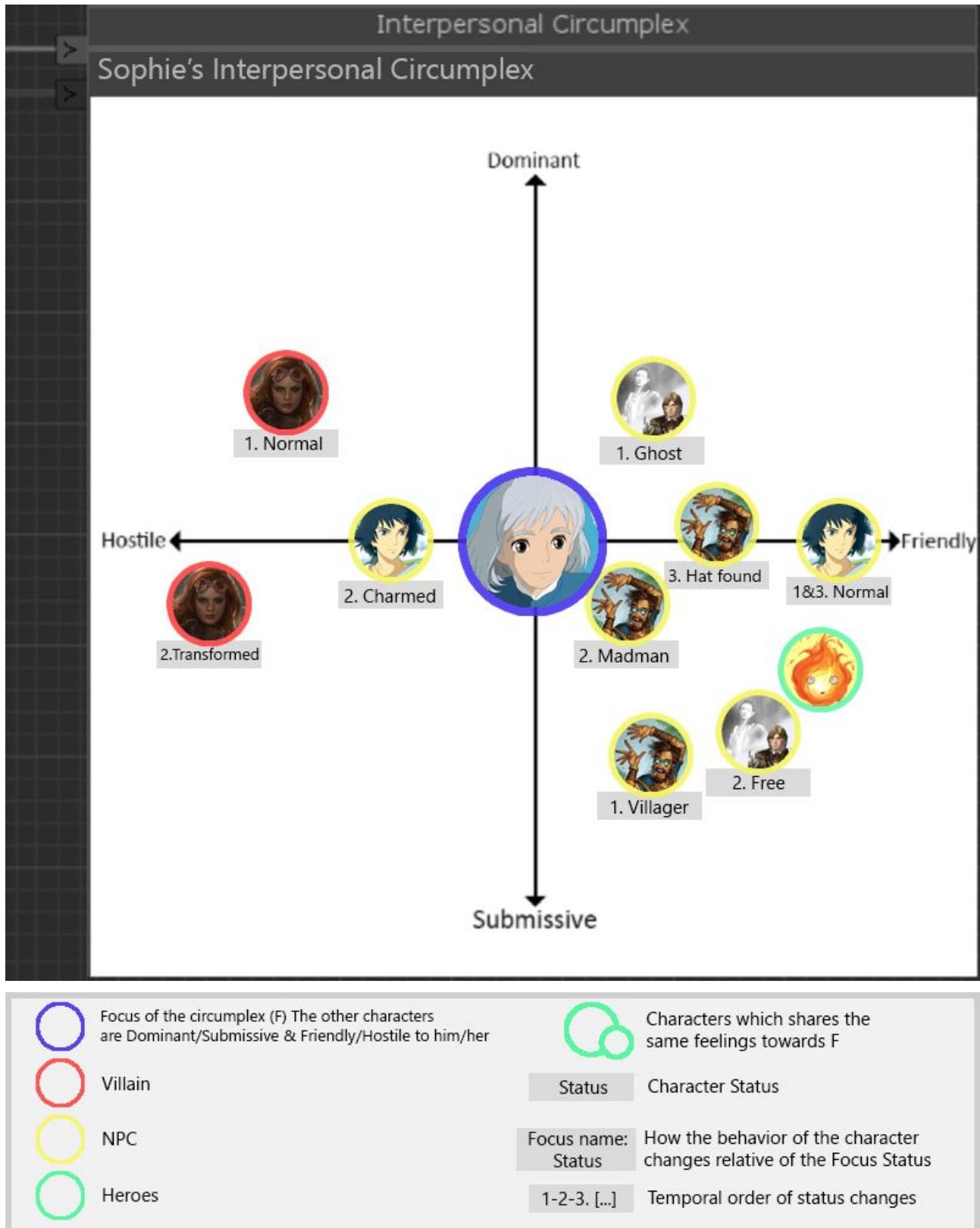
After some events (like the encounter with Howl's former master) their relationship grew up a lot, as well as Sophie self-confidence which resulted in her being able to break the deal between Howl and Calcifer as well as removing the curse casted on her, of which only the silver hair aspect remained.

After these events, Howl and Sophie declared their love, and they started living together in the moving castle.

6.1.3 - Circumplex



6.1.4 - Maps of relations through time.



6.2 - Calcifer

6.2.1 - Description

Calcifer is a tiny flame with eyes and mouth, but despite looking cute, he's a powerful and proud fire demon. He uses the *pluralis maiestatis* when he's speaking about himself, he likes receiving compliments and (obviously) hates everything that is wet or humid.



6.2.2 - Backstory

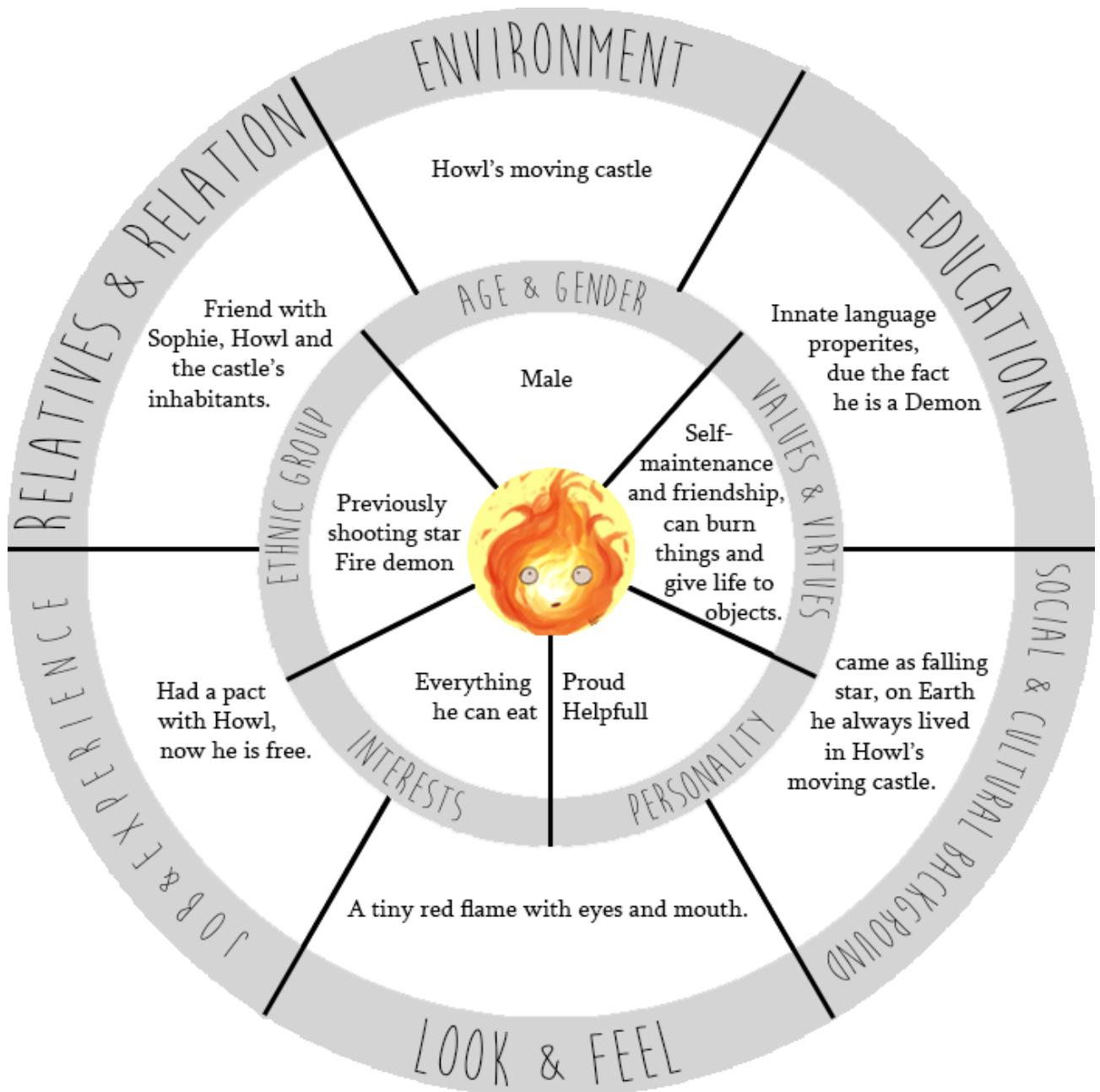
Calcifer came to Earth in the night of the falling stars, he was caught by the young mage Howl, and made a deal with him: Howl would have gained more power, and Calcifer would have had a heart to feed himself, in doing so their lives got intertwined. So the death of him would have meant also the death of Howl.

In the next years he lived with Howl and gave life to his moving castle, but their deal made Howl more selfish. One day Sophie arrived at the castle and asked him to break her curse. Calcifer promised that he would have done it, as reward if she helped him breaking the deal he had with Howl, but he couldn't tell her what was about.

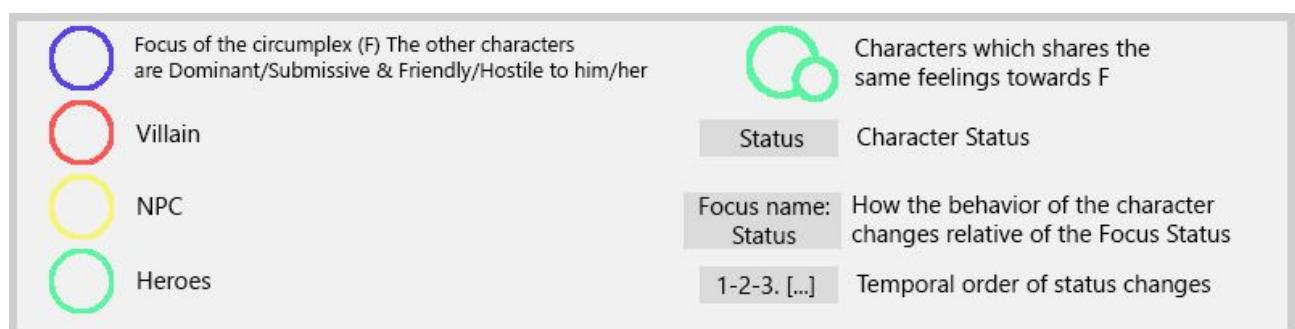
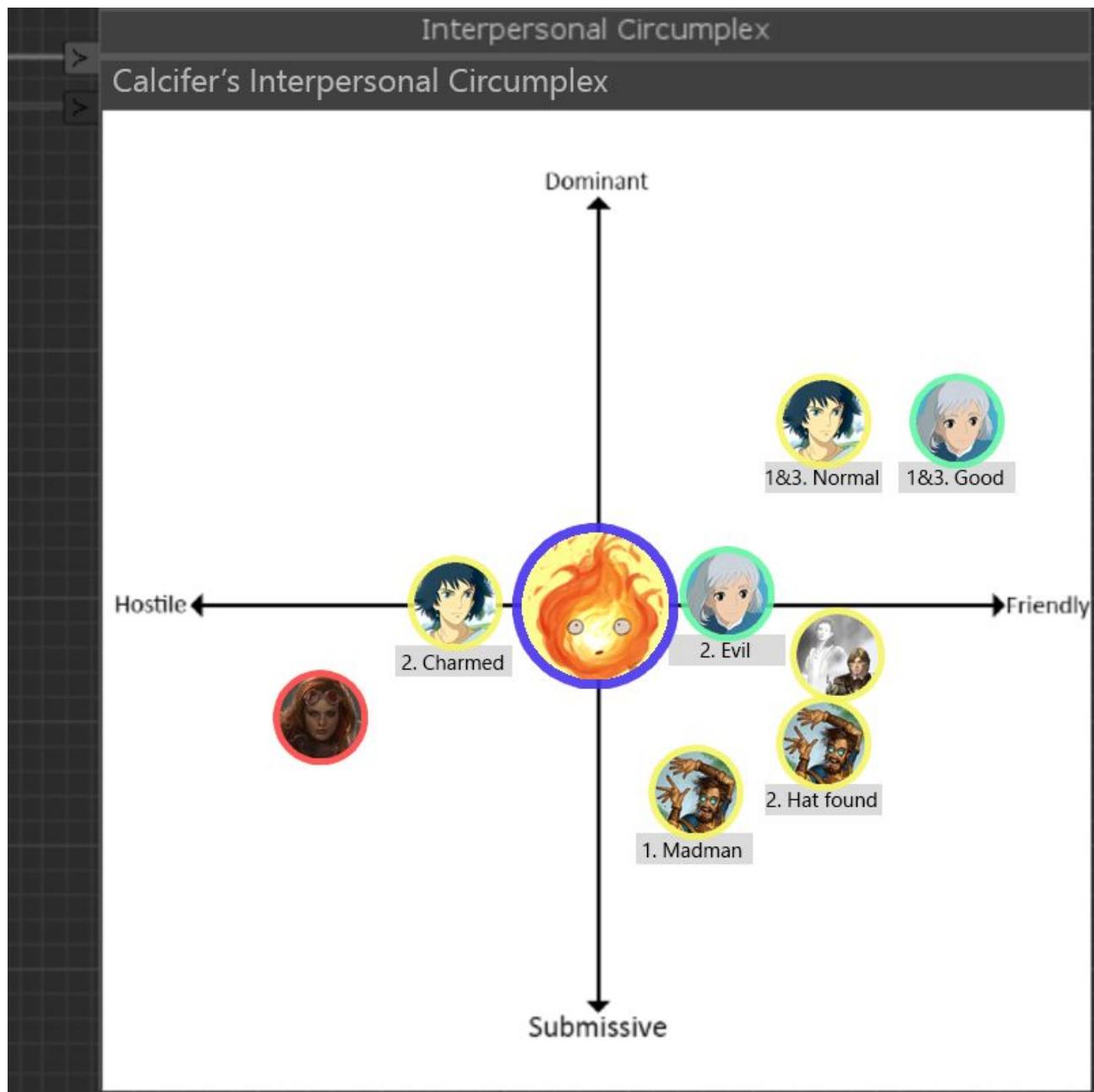
After facing some events that put in danger both himself and Howl, they survive thanks to Sophie, who also succeeded to break the deal.

Even if free to leave, Calcifer however decided to stay with Howl and Sophie and live with them.

6.2.3 - Circumplex



6.2.4 - Maps of relations through time



6.3 - Howl Jenkins Pendragon

6.3.1 - Description

Howl is powerful mage, he has blue eyes and blue hairs. He take care of his independence and freedom by spreading bad rumors about himself, hoping to live peacefully and stay away from conflicts. He's a nice guy, loyal to his beloved one, Sophie, and he's kind and helpful with everyone (also with those who once were enemies) and he's a person whom you can count on.



6.3.2 - Backstory

Born in Wales, he was a natural talent for magic. He studied to become a mage with Suliman, the royal witch, as a teacher.

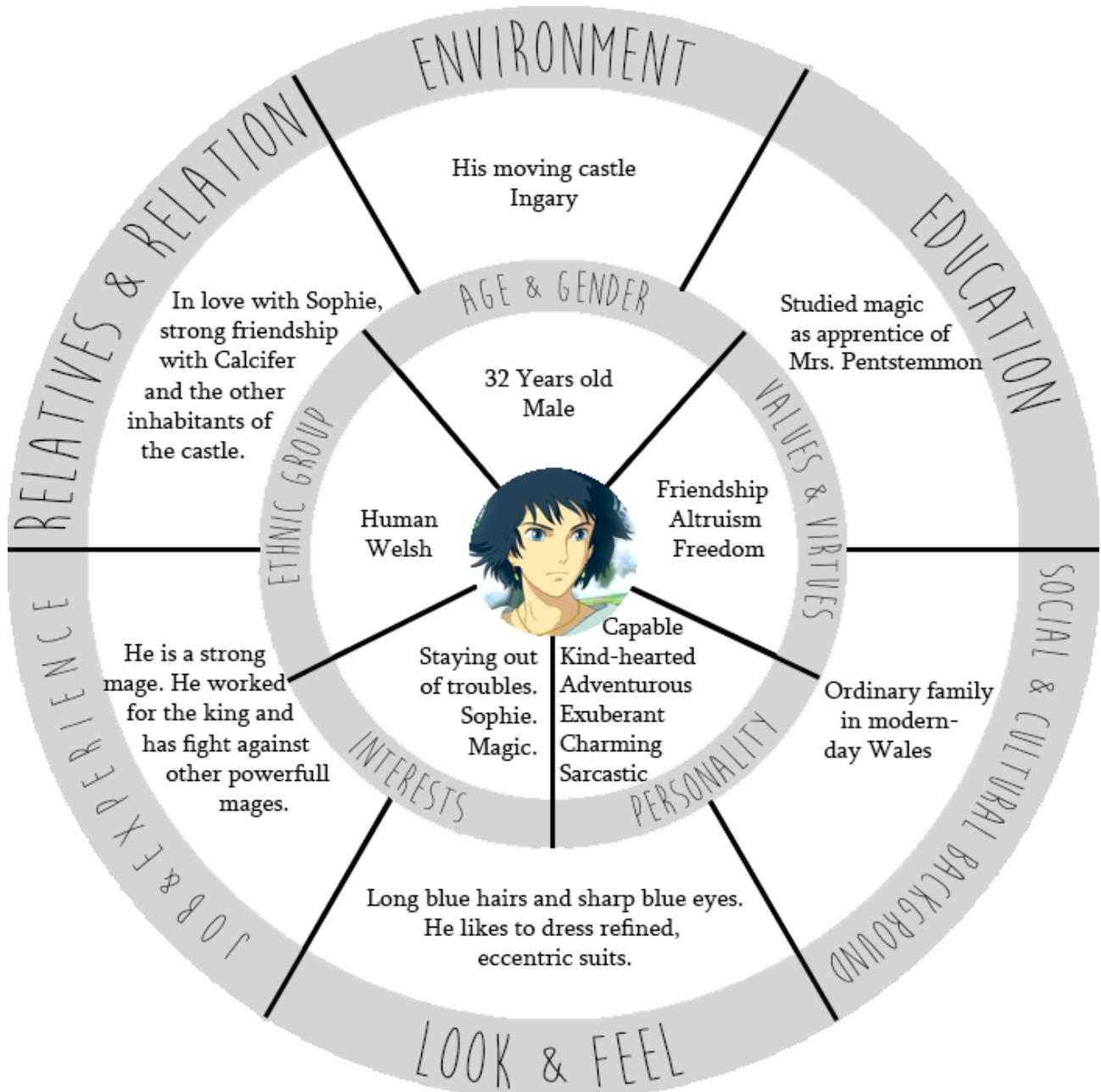
He left his apprenticeship when, during the night of the falling stars, he made a deal with the fire demon Calcifer: power in exchange for his heart. The night this happened, he saw Sophie coming from the future, who begged him to remember and wait for her.

Years passed, Howl slowly became selfish and narcissistic because his heart didn't belong to him anymore. He started to give much more importance to his appearance and to have relationships with many girls, one after another, careless of their feelings. He was asked to become a royal mage, but he always tried to escape from responsibilities in order to live free. His life changed when he met Sophie once again.

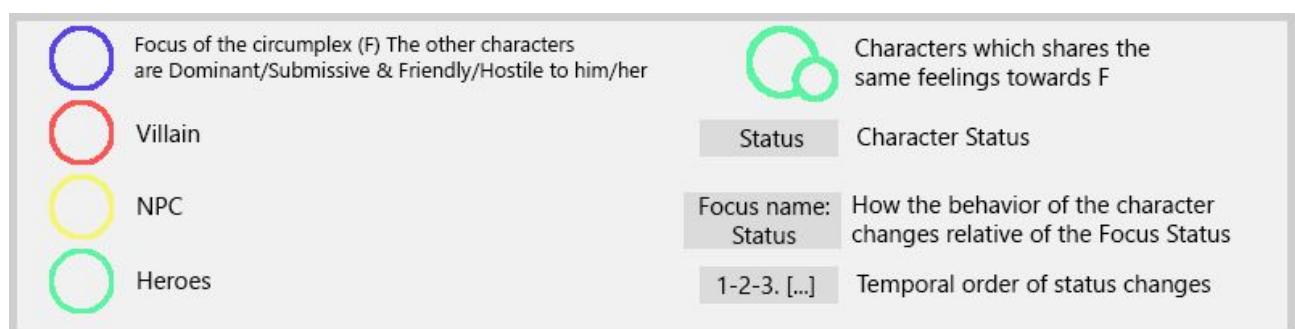
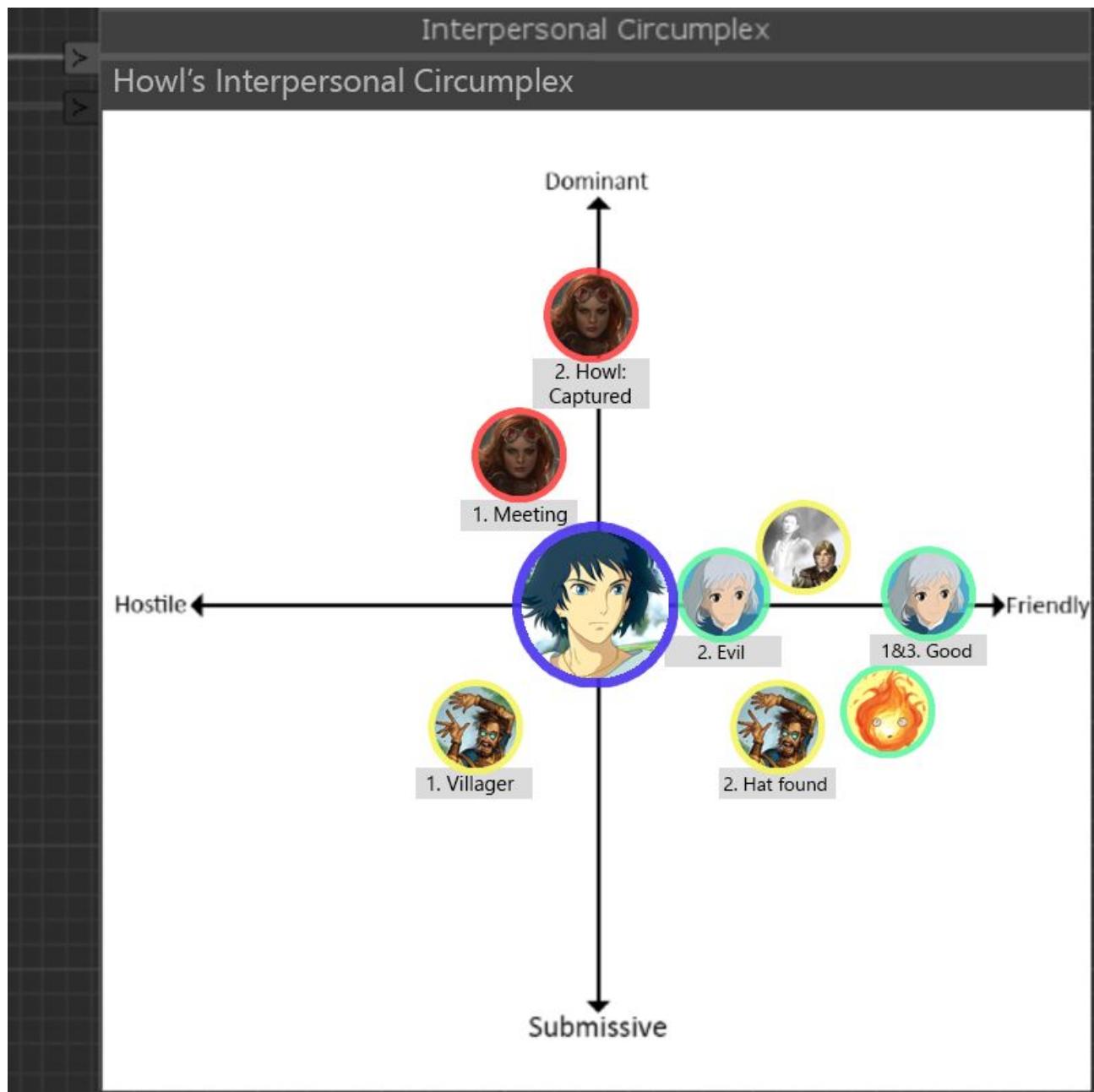
One of the women that Howl courted, known as the Witch of the Waste, jealous of Sophie, turned her into an old lady. Nonetheless, when Sophie arrived to Howl's moving castle, he immediately recognised her and started to protect her. Thanks to their love, Howl's deal with Calcifer and Sophie's curse eventually broke, and after declaring their feelings each other, they started to live together and Howl returned to be the nice person he was before.

Two years later the witch Evelyn, interested in Calcifer, found him while walking in Kingsbury, and casted a charm spell on him. Howl in order to reach her castle, had to create a new sector on his magical door, linking it with a nearby abandoned house, to avoid being discovered by Sophie. From that moment he has gone missing.

6.3.3 - Circumplex



6.3.4 - Maps of relations through time



6.4 - Evelyn Wilkinson

6.4.1 - Description

Evelyn is a 26 years-old ambitious witch who took Howl as an hostage in order to obligate his friend Calcifer to make a deal with her. She has already two fire demons on her side, Lilifer and Mephistofer, with Calcifer she would become even more powerful. Her goal, highly influenced by the deals with her demons, is to subdue everyone in the world, but she's smart and she knows that in order to do it she needs to be more powerful and with an army on her side. So she has built a giant factory inside her "Steam-Castle" where, with the help of her henchmen, she's building thousands of steamsoldiers.



She's a charming woman with long red hairs but also with dark cold eyes which reflect her evil and frightening nature.

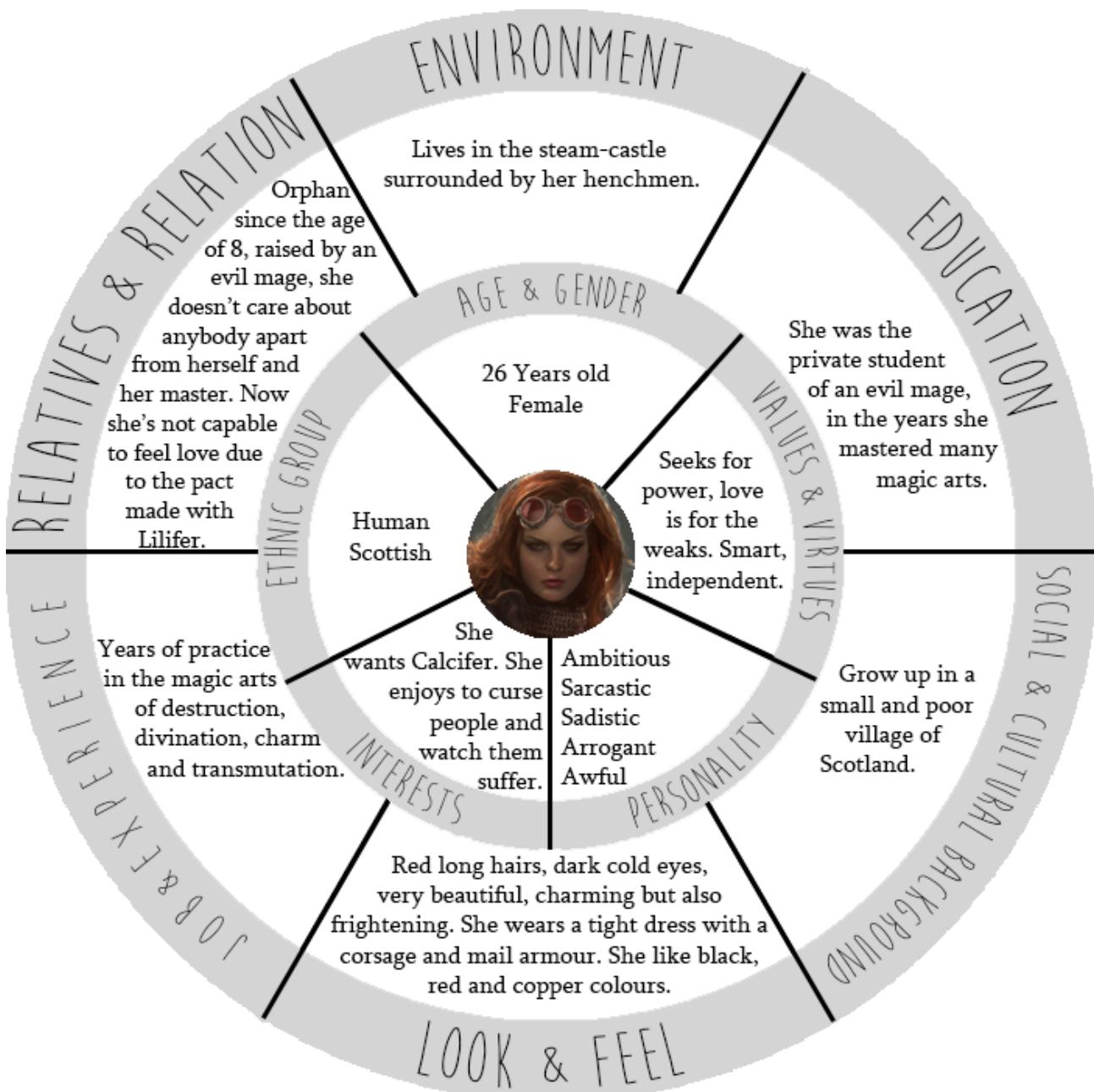
6.4.2 - Backstory

Born in a poor scottish town, her parents left her alone at the age of 8, so she was forced to lose her innocence very young. An evil mage without children living nearby saw in her a high magical potential, and decided to take her as apprentice. From him Evelyn learned more than any other young mages frequenting ordinary magic schools, and mastered, through the years, the arts of destruction, divination, charm and transmutation.

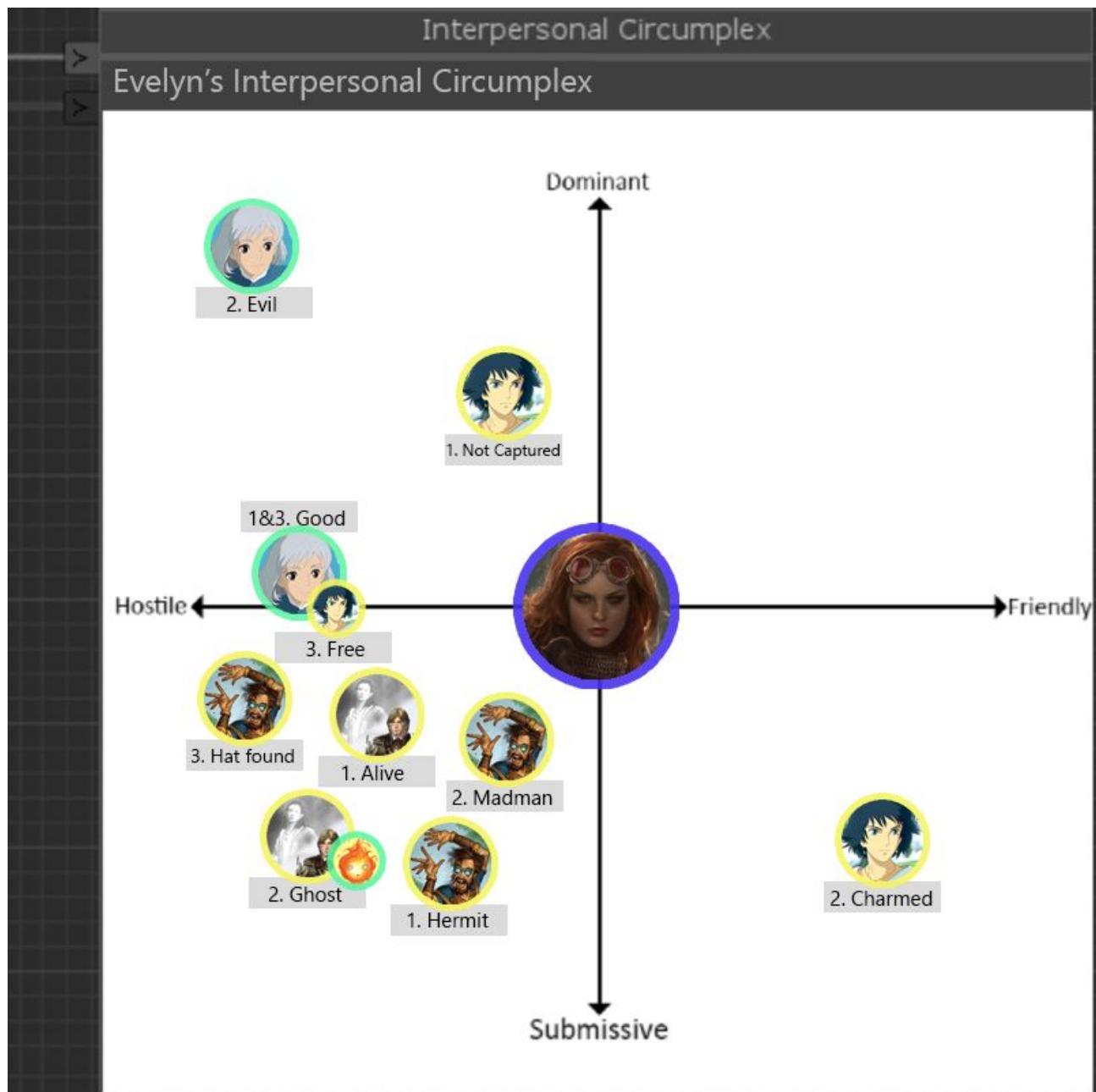
During the night of the falling stars, the young Evelyn catched a fire demon called Lilifer and made a deal with her: power in exchange for her heart. Evelyn wasn't a good child due to the teaching of his master, and after the encounter with Lilifer her nature got worse, becoming evil. Year after year her hunger of power increased and her goal became to subdue everyone in the world conquering every kingdom, but in order to do so, she needed a powerful army, and the henchmen she was able to control weren't enough. So Evelyn decided to build a huge castle in a far away land, and inside it a giant factory where she could create thousands of "steamsoldiers".

More and more confident of her powers, she decided years later to look for mages with their own fire demons in order to steal them. At first she found Izzet, and defeated him after a tremendous battle. Then it was Howl's turn, but she discovered that the deal between him and Calcifer was already broken. Since they were living together as friends, she planned to kidnap Howl and use him as an hostage, so Calcifer would have been forced to make a deal with her.

6.4.3 - Circumplex



6.4.4 - Maps of relations through time



Focus of the circumplex (F) The other characters are Dominant/Submissive & Friendly/Hostile to him/her



Villain



NPC



Heroes



Characters which shares the same feelings towards F

Status

Character Status

Focus name: Status How the behavior of the character changes relative of the Focus Status

1-2-3. [...]

Temporal order of status changes

6.5 - William the Hat Seeker

6.5.1 - Description

William is a man with long brown beard and torn clothes.

He seems to be mad for his obsession to collect items, but he knows the Steam-Castle very well. Even though Sophie has seen his former self before, the curse has changed him so much that he's now unrecognizable. Being interested in hats, he's willing to barter them for the stuff he gathers in the Steam-Castle.



During the events, Sophie may find the hat she made for William several years earlier and she can bring it to him, thus breaking the curse and making him remember his true self. From that moment he'll recall the feelings he had for Sophie, but he will be disappointed by her attitude and leaves. Then he realizes the great effort she had to make for his beloved one, so he bravely decides to help her, hoping she'll be once again the Sophie he remembers.

In the end he'll understand that being an hermit was only a way to escape from his regrets. Also he'll accept that there's no place for him in Sophie's heart. So he will return to his hometown and start over with a new life.

In the case his hat isn't found, he'll remain insane even after the castle is destroyed and will continue to roam endlessly nearby the castle remains searching for it.

6.5.2 - Backstory

William used to live in Market Chipping, where he was a baker.

One day he visited Sophie's shop, there he bought a new hat and fell in love with her.

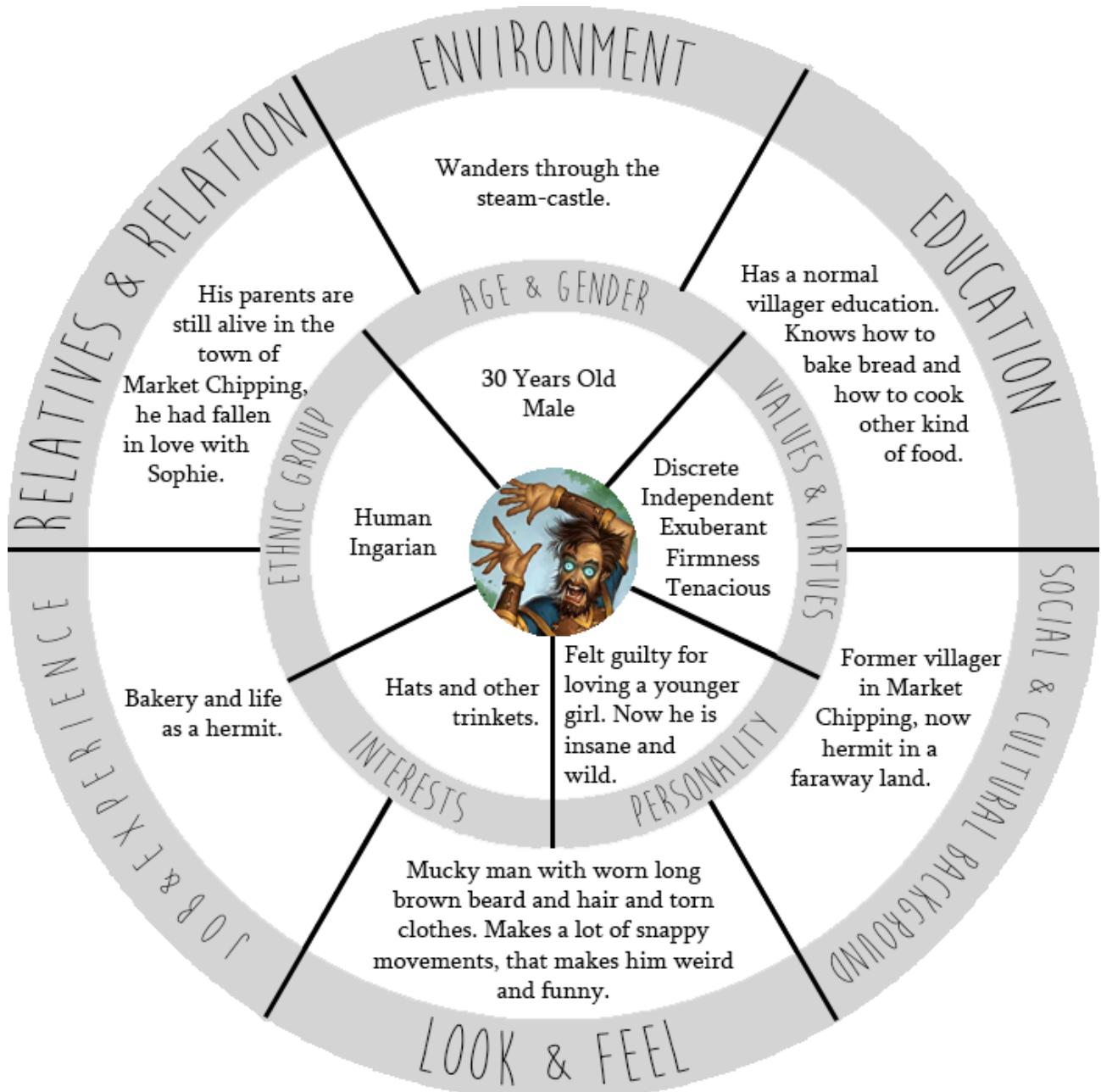
He felt guilty for this, because of the great difference of age between them.

He tried for months to talk to her, but barely made it, until one day she disappeared, without being able to declare his feelings. Days later, he was told by Sophie's stepmother that she left with his beloved one. Angry and disappointed by himself, he decided to leave the town forever and live as an hermit, in a faraway land. Nonetheless he kept the hat Sophie made for him has a token of his feelings.

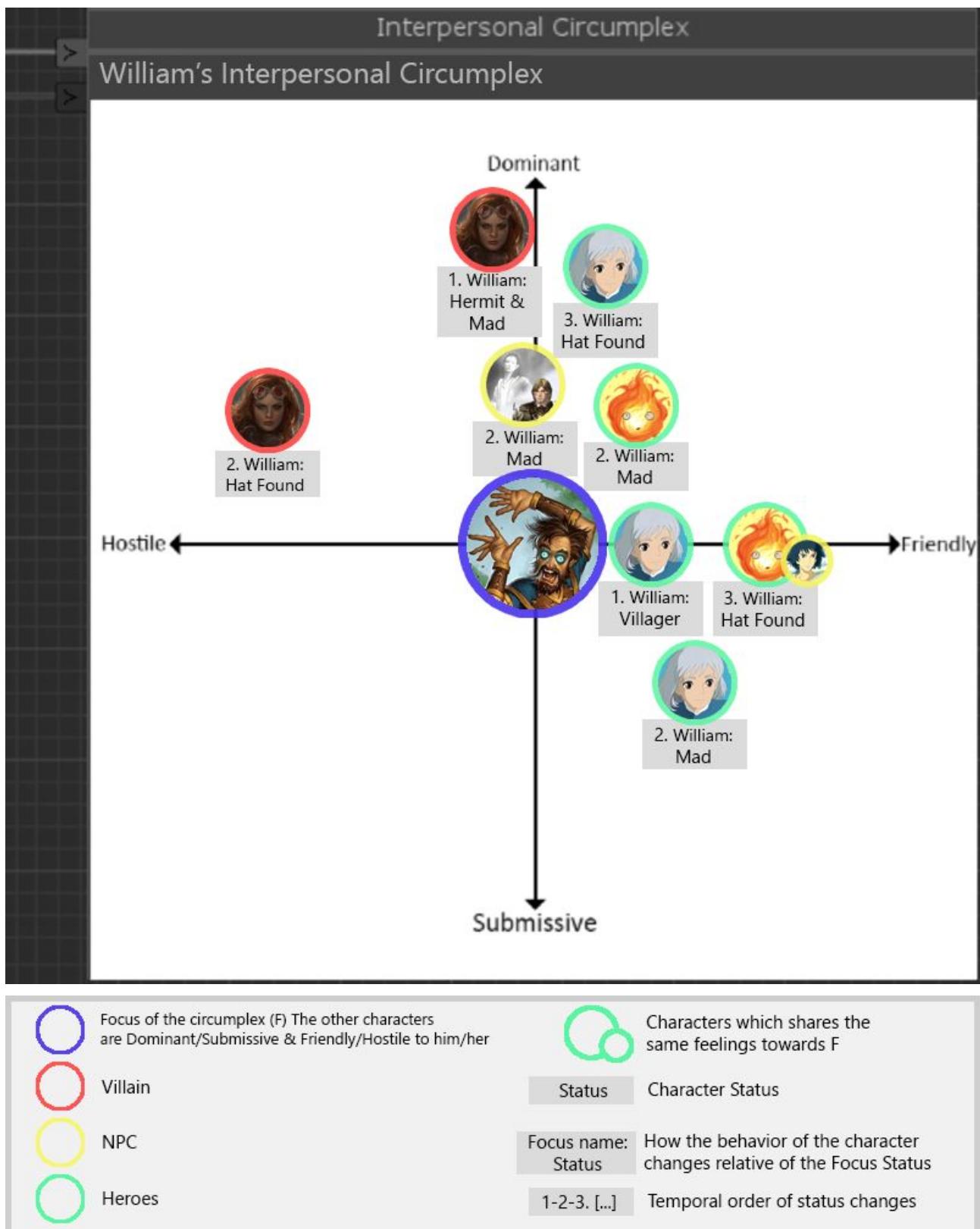
One year later his peace was threatened by someone who started the deforestation of the surroundings. Furious, he went to argue with the responsible, only to find out it was Evelyn, an evil witch.

Furious for being disturbed, Evelyn said to him: "How dare such a nobody like YOU bother ME? You know what? I have an idea: from now on you WILL be nobody!", and after an evil laughter she hurled a curse that made him lose his identity. The spell generated a huge gust of wind that made him lose his precious hat. From that day he couldn't remember nor his name nor his habits, but find himself very interested in hats, so he started roaming endlessly through the Steam-Castle searching for them. This drove him insane and at the beginning he started collecting mushrooms for their vague resemblance with hats, then also all the other stuff he could take and carry.

6.5.3 - Circumplex



6.5.4 - Maps of relations through time



6.6 - Izzet the Ghost

6.6.1 - Description

Izzet is the ghost of a dead mage that wanders in Evelyn's Steam-Castle. He will help Sophie and Calcifer in their adventure teaching them how to build constructs from the debris spread around the Steam-Castle. If he'll ever show courage fighting the embodiment of the deal between Evelyn and Mephistofer, his curse will be broken and he will be set free, able to rest in peace.



6.6.3 - Backstory

Izzet was once a very wimpy mage, specialized in golem animation. During the night of the falling stars he met Mephistofer, a fire demon whom, in exchange of his guts, granted him power to overcome his fears, with the condition that he should have never been frightened again.

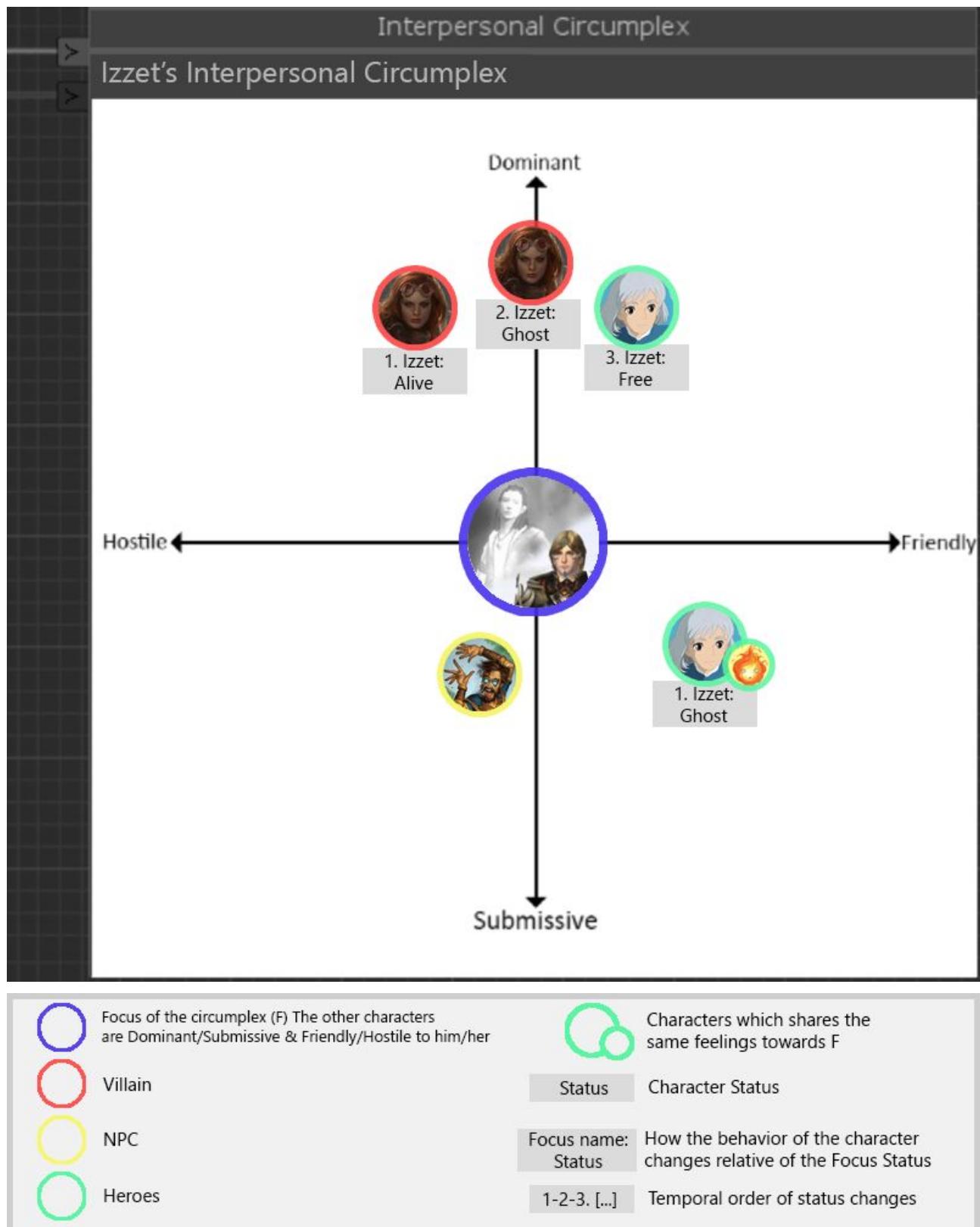
After the witch Evelyn scared Izzet during their fight with her overwhelming powers, the deal was broken and Izzet without his fire demon was easily defeated. To make matters worse, Mephistofer acknowledged Evelyn's skills and passed to her side. Now Evelyn, seeing Izzet alone and armless, sadistically shouts: "Excruciate forever in your cowardice, and watch me while I conquer every kingdom with Mephistofer as MY ally!!"

So Evelyn hurled a curse on him, destroying his body and binding his consciousness to her castle forever, making him a ghost.

6.6.2 - Circumplex



6.6.4 - Maps of relations through time



6.7 - Lilifer (brief description)

Lilifer is a tiny purple flame with evil red eyes, tongues of fire which remind loose hairs and a female voice. She's the fire demon that Evelyn caught during the night of the fallen stars, when Calcifer and Howl have made the same deal as her and Evelyn. This deal is the reason why the young Evelyn, already a bad child because of a difficult childhood and a evil master, became wicked and obsessed with power. Lilifer is now providing energy to the Steam-Castle, helping Evelyn in creating her army. She's snob and watches every Evelyn's deed with amusement and cold interest.



6.8 - Mephistofer (brief description)

Mephistofer is a huge blue flame with big and evil eyes. He's selfish and respect only mages with high confidence. He's the fire demon which had a deal with Izzet, the mage who caught him during the night of the falling stars, providing him power in exchange for his guts, with the agreement that Izzet wouldn't have to be afraid ever again.



However, when Izzet faced Evelyn, he felt fear and their contract was broken.

So Mephistofer changed side, making a deal with Evelyn: he increased even more her strength in exchange of her stomach, to fill her endless hunger for power.

Evelyn was already connected with Lilifer though and wasn't able to sustain both the demons. So, she disgorged a black slimy abomination, an embodiment of their deal.

In order to protect it, Evelyn sealed the gluttonous abomination in the depths of her Steam-Castle, in its dump, where it will be endlessly fed with the wastes of the factory. Due to his connection with the abomination, Mephistofer can't leave the castle either.

7 - Complete story

While walking on the streets of Kingsbury, Howl is stopped by Evelyn, who charms him with a spell and orders him to go to her castle.

He heads to the moving castle only to disappear secretly by creating a new sector, through the magical door, leading to a small abandoned house near Evelyn's Steam-Castle.

Knowing from Howl about the magical door that leads to the moving castle where Calcifer resides, Evelyn sends an henchman to the abandoned house that starts knocking on the door to hand a letter addressed to Calcifer: Evelyn wants him in exchange for Howl. Unwilling to give up either of her friends, Sophie decides to go rescue Howl, but she and Calcifer need more strength, so they make a deal: Sophie's heart to enhance her magical powers, with the condition of using them solely to save Howl.

Accepting the deal means that Calcifer can no longer freely move as a shooting star and Sophie gradually loses her kind-hearted attitude.

They send the other inhabitants of the moving castle to a safe haven, because, without Calcifer, it'll collapse.

Within the abandoned house they find a sketch of a map with a location marked up north with a note stating "source of noises". They decide to head in that way. Passing through a thick forest, they reach a wide canyon and on the other side they see a huge castle: Evelyn's steam-castle.

Unfortunately the drawbridge leading to its entrance is raised and they have to find another way to sneak inside the castle. They notice in the distance a deforestation plant with a conveyor belt used to carry wood and decide to enter through that, ending up in the stock room.

There they meet William, in the middle of collecting stuff. Seeing Sophie's hat, he craves for it. Since William shows a big interest in hats, Sophie proposes him to trade the ones she take from the henchmen in exchange for the useful items he collected.

In the next area of the castle, a giant boiler room, the two fire demons Lilifer and Mephistofer reside into their respective furnaces. Because they look evil, Calcifer suggests Sophie to move unnoticed. In that moment Izzet appears agreeing with Calcifer, then introduces himself. He tells them that Howl is in Evelyn's throne room, up above the castle, reachable by climbing the ladders of the tower. Unfortunately Evelyn always closes its door, so they have to figure out how to reach the tower.

Seeing that Sophie's a witch and has to fight Evelyn, he gladly accepts to help her, by teaching his old golem creation spells. The first one is the "Gorilla" golem, able to push things with inhuman strength.

In the castle entrance Sophie and Calcifer decide to use this golem to push the tower door open, but first they need some debris to build it.

Some sacks of them are actually being carried above the room by some kind of mechanism and so they decide to check other areas of the castle in order to find a way to stop it.

The first one is a building site where, among the other things, Evelyn plans to extend the boiler room to add another furnace for Calcifer.

Here the walls have the reinforcement material missing and Izzet teach them how to make the "Spider" golem able to climb on weak walls.

The other one is a garden where Izzet teach them how to make the "Mole" golem able to dig in the

ground. The garden contains the entrance to the mines, now inaccessible, because the only way to get inside, a single usable wagon, has the wheels completely rusted.

In both places they fight several henchmen, a steamsoldier prototype and break one of the two cogs to stop the mechanism.

After unfastening the debris sack in the castle entrance, they fail to open the door since it is too heavy even for the Gorilla golem, but they see a platform up above they can reach to search for another way to enter the tower. Crossing a door, they end up to the waste disposal plant, where the henchmen make use of machineries to get rid of junk.

After exploring the waste disposal plant and its external area, thanks to the "Frog" golem teached by Izzet they manage to reach a high-placed balcony. Another steamsoldier prototype blocks their way, but they defeat it and finally enter the tower.

There, Izzet informs them that, in the depths of the castle, resides an abomination and strongly advises them not to go there.

If they head down, after the dungeons, they end up in the waste dump, where the gluttonous abomination is constantly fed with the wastes of the Steam-Castle. This monster is the embodiment of the deal between Evelyn and Mephistofer, that she disgorged being unable to handle both demons at the same time.

Impressed and motivated by their courage, Izzet decides to help them fighting the monster. Mephistofer, feeling the abomination is in danger, immediately rushes to protect it.

By destroying its "food" dispensers they starve it to death.

In that moment, Mephistofer is set free and proposes Sophie to make a deal so he can continue feeding on a mage soul, while giving her the power to defeat Evelyn easily. Sophie refuses since she doesn't trust the demon.

Showing courage fighting the abomination, Izzet's curse is broken and he can now rest in peace. Izzet deeply thanks them, but for saving him, Sophie pretend a reward. Reluctantly he shares the last part of his knowledge, teaching them how to make the golem he is more jealous of, the "Firefly" one, able to fly and land only in large open areas. Izzet disappears, while Sophie and Calcifer use the golem to return to the tower and proceed up the ladders.

The next area is the steamsoldiers assembly room, where they find an oil can to grease the wheels of the mines wagon.

If they move to the mines to destroy the extraction mechanisms, they find an henchman with an old hat that Sophie recognizes she made several years earlier. Brought to William, he retrieves his identity and tells them how he ended up there and what drove him insane. Sophie pretends a reward from him, so William leaves disappointed by the attitude of the kind girl he used to love. However, several chests containing the stuff William gathered are placed on the way to Evelyn's throne room.

They move on to Evelyn's workshop, where she designed the earliest prototypes of steamsoldiers and finally get access to the testing rooms.

After fighting several steamsoldiers and henchmen, they reach the throne room where, if William is sane, he appears again. He finally expresses his feelings to Sophie and, understanding the great effort she had to do for her beloved one, decides to help her in the upcoming battle, hoping that once her quest is fulfilled, she will return the former Sophie.

They face Evelyn, who states she was waiting for them and that she let them act freely to see Sophie turn evil and let her friends see her true nature. She attacks alongside the charmed Howl and the fire demon Lilifer (and Mephistofer, if still present).

They manage to defeat Evelyn and the spell on Howl is broken so they can finally escape. They decide to spare Evelyn, so she can think about her actions and try to redeem herself. She starts to feel guilty about her past actions, but Lilifer cruelly instigates her to keep fighting remembering her the reasons for their evil plan.

Evelyn has a mental breakdown, swallows Lilifer and turns into a huge mindless monster eager to destroy them. In the process, she starts to destroy her own castle.

If Mephistofer is still present, in order to avoid the falling debris and being swallowed by Evelyn himself, he flees to the depths of the castle.

Sophie and the others escape through the tunnel that leads to steamsoldiers warehouse. Avoiding enemies and the falling debris, they eventually reach the outside where they see the castle crumbling.

They engage another battle against Evelyn in her monstrous form.

After defeating Evelyn, instead of putting her out of misery, Sophie enjoys seeing her suffering and Howl is shocked by this attitude. He decides to kill Evelyn himself, but Sophie is angry that he took away her amusement and attacks him.

Since she used her power to harm Howl, instead of saving him, the deal between her and Calcifer breaks. Sophie retrieves her heart and immediately starts to feel bad about her actions and the dark feelings harboring deep inside her heart. However the others comfort her saying that she wasn't herself without it.

Sophie, Howl and Calcifer build a new moving castle from the Steam-Castle debris and start to live happily again.

If William is sane he'll thank them again for saving him and greets them stating that he will return to the life he left several years earlier.

If he is still a madman, he'll eternally wander around the castle remains in search for his hat.

If the gluttonous abomination wasn't killed by Izzet and Sophie, it will eventually die and Mephistofer, once free, will remain trapped in the depths of the castle. Izzet too will remain trapped in the ruins of the castle, because he wasn't able to break his curse and will end up actually haunting them like a proper ghost. His only slight satisfaction will be seeing Mephistofer slowly extinguish while begging Izzet to help him.

8 - Level Story

S: Sophie - C: Calcifer

When Sophie and Calcifer enter the plant from the left side (see the [level diagram](#) at page 59) they immediately hear some noises, so they hide behind a metal box on the catwalk to see what's happening: there's Evelyn mad with one of her henchmen, probably because it made some kind of mistake. So she vent her anger by destroying her servant with a powerful spell that also blows up the stairs nearby, causing a fire.

Evelyn teleports away, and few instants later a firefighter henchman appears from the wall and starts to extinguish the fire.

C: "Did you see that!? She must be Evelyn!"

S: "Well, I guess she's the kind of woman who doesn't go unnoticed"

S: "Anyway, what a smell! This place must be full of trash!"

C: "Really? Luckily we don't have a nose..."

S: "We need to find a way to go outside, but first I think we have to take care of these guys"

C: (giggles) "I like when it comes to blowing up henchmen!"

After the [fight](#) (page 97) is over Sophie and Calcifer have to find a way to exit the plant, and in order to do that they will have to solve some [puzzles](#) (page 98). Eventually they leave the plant, but the view of the outside is terrifying for Calcifer because it's raining heavily.

C: "No, no, NO! We cannot go there! We will surely die!"

S: "You will be fine, aren't you a mighty demon?"

C: "Of course! A mighty FIRE demon! You know we can't withstand the water..."

S: "Well, we have to go there and look for a way up, save the gripes for later."

Once they go outside, they have to fight another group of henchmen ([encounter A](#), page 105). Then, they make their way ([puzzle A](#), page 106) through the rocks dropped from the landslide, reaching the other side of the area. Here they surprisingly find William, who has moved his shop in a dry place inside a creek of the wall (see [every dialogue](#) with him at page 107).

After having replenished the inventory, Sophie looks around. She sees a cave in the rocky wall not far from them.

S: "That must be where all this boulders fell from."

S: "..."

S: "Maybe we should try to reach that opening, that part of the wall looks perfect for the *spider golem*"

C: "Whatever, as long as it's dry inside!"

S: "I wouldn't be so sure"

C: "We're sick of this place!"

So Sophie creates the *spider golem* from some debris nearby and starts to climb the wall, but in that moment some bucketfuls of water drop from the opening ([puzzle B](#), page 106).

C: "Seriously!? Wasn't the rain enough!?"

At the end of the climb, a bucketful hits the golem, which wrecks. Also, beyond the opening of the cave, some henchmen were working to stabilize the collapse provoked by the rain. Sophie have to fight all this enemies together ([encounter B](#), page 158).

In this cave they find a passage that leads to a complex system of tunnels, where Sophie hopefully has to search for a way up ([puzzle](#) at page 112). Here she defeats another group of henchmen that are getting rid of the water penetrated in the area ([encounter](#) at page 111).

When they first see the central room of the tunnels system:

C: "Looks like it's open at the top! And this is a really huge amount of water that falls from there! No wonder that everything it's flooded"

S: "You should be pleased that we can actually walk in here! I wonder if there is some way to drain the water... by the way, we need to find a way up. Let's look around."

Whenever Sophie is making a mistake in moving the boulders:

C: Have you gone nuts!? If we move the boulder that way, the water will overwhelm us. We don't want to be extinguished. Be careful please!

If Sophie tries to descend to a flooded floor:

C: We can't go that way! It's completely flooded down there!

Once outside, Sophie and Calcifer see the ruins of a collapsed balcony. The henchmen have built a scaffolding to repair the damages that extends in height till the balcony, but at the moment there isn't any henchman working on it.

S: "What a mess! So this is the reason of the landslide from before..."

C: "At least we made it to the tower! Let's see if we can climb it somehow."

They find a way through the balcony rests, reaching the base of the tower. Here Sophie is about to give up the idea to climb the scaffolding, but in that moment Izzet appears and will help her by teaching another golem so they finally reach the balcony (see [Izzet tutorial dialogues](#) at page 117).

S: "Finally we reached the top, and luckily there's a door up here!"

C: "We have a good feeling about this, Howl must be very close!"

After this words, the door is opened by a steamsoldier prototype, who was activated by the noise they made to reach the balcony.

S: "What did you say about that felling?"

C: "BAD! WE MEANT A BAD FEELING! We knew that was a horrible idea, Sophie please let's get back!"

S: "If we don't endure within the frog I'm afraid we have no chances, just resist a little bit more, Calcifer!"

Once they defeat the steamsoldier ([boss fight](#) at page 116), they'll get inside the tower. From there they will proceed their mission, one step closer to Howl.

Data Organization Section



Sophie Hatter, in the mess of Howl's castle

Revision History

Who	When	What
Marco	29/10/2018	Created this document, logo added.
Marco	01/11/2018	Added some content.
Marco	05/11/2018	Redefined file naming conventions and backup methodology.
Marco	07/11/2018	Updated Images Data type & format
Matteo	08/11/2018	Changed file name convention
Riccardo	08/11/2018	Updated backup convention
Matteo	15/11/2018	Added audio, explained gdocs, docx
Marco	20/11/2018	Added audio formats and text Styles
Matteo	20/11/2018	Draw.io, data storage, notes format, naming convention, date format
Matteo	23/11/2018	Additions to directory structure
Marco	24/11/2018	Added text format info
Matteo	26/11/2018	“[...]” in dir. str. eliminated, mechanics notes now in their folder
Matteo	26/11/2018	Section 2 and 3 inverted, font adjusted, examples modified
Matteo	30/11/2018	RPG maker added
Matteo	3/12/2018	Sheets folder added in LDD
Matteo	10/12/2018	Images in directory structure re-organized, created LD folder
Marco	7/1/2019	Added Trello as Organization software, general review
Matteo	8/1/2019	Added Sketchup
Matteo	22/1/2019	Added captions text format, specified alignments, paletton.com
Matteo	24/1/2019	“Section” in file naming conventions modified with “Chapter”

1 - Software List

1.1 - Image Editing Software

- Adobe Photoshop CS6 13.0

1.2 - Development Software

- GHOST 2.0 (for Unity)
- Draw.io (to work on charts and level diagrams concurrently)
- RPGMaker MV 1.6.1 (for digital prototyping of puzzles)
- SketchUp 2018 (for huge environments 3D models)
- Paletton.com (for color palettes)

1.3 - Organization Software

- Google Docs (to work on docs concurrently. This docs will be exported in .docx format before being uploaded on Git)
- GIT 2.19.1
- Source Tree 3.0.8
- 7-Zip 18.05
- Trello (workflow organization)

1.4 - Environments

- Windows 10

2 - Data Storage and Access

The data of the project are stored in a GIT repository of PONG (Playlab fOr inNovation in Games).

To access the repository:

1. Generate a RSA public key and contact the service manager.
2. Authenticate by private key to the repository.

2.1 - Backup

Backup is managed by the Github repository. If necessary, is possible to do a rollback via the -git checkout functionality. Since we use GIT, every member of the team also has a local copy of the repository.

On Monday, Wednesday and Friday, every .gdoc and draw.io file on which the team is working must be exported (respectively in .docx and .html) and pushed on the Github repository.

3 - Data Types and Format

3.1 - Text

- **Documentation:** .docx files (.gdoc on Google Docs are exported in .docx before being pushed).
- **Notes:** .txt for quick simple notes, .docx for notes where a more complex structure is needed (eg. bulleted lists, **bold**, *italics* etc.)
- **Text Styles:**
 - **Alignment:** Justified if not specified
 - **Title:** Arial 26 black (#000000 hex color)
 - **Subtitle:** Arial 15 grey (#666666 hex color)
 - **Heading 1:** Arial 20 black (#000000 hex color), center alignment
 - **Heading 2:** Arial 16 black (#000000 hex color)
 - **Heading 3:** Arial 14 black (#000000 hex color)
 - **Normal Text:** Arial 11 black (#000000 hex color)
 - **Caption:** Arial 11 grey (#666666 hex color), center alignment, italics

3.2 - Pictures

- **References & concept art:** JPEG images with a resolution greater than 256 dpi are preferable. PNG files have to be 24-bit PNG
- **Circumplex:** .png 700x700.
- **Character's Avatars:** .png 108x108.
- **Interpersonal Circumplex:** .png 800x800.
- **Charts:** .png
- **Draw.io files:** .html files (exported in .png files)

3.3 - Image Editing

- **Photoshop files:** .psd files. Always make and keep a Template for every type of file, so it is easily editable. Never merge different layers in the .psd file.

3.4 - Audio

- **Soundtracks:** .mp3 format. Bit-rate 128Kbps
- **Short audio files (less than 5 sec), sounds effects:** .wav format. Sample rate: 44,100Hz. Bit-rate 128Kbps

4 - Directory Structure

(root) Howl's Moving Castle - Deals & Demons

- DOC_DataOrganizationDocument.doc
- Milestones
 - Moonrats_<NumberOfMilestone>Milestone.zip
- Prototypes
 - Assets
 - Characters
 - <CharacterName>
 - IMG_<CharacterName>Asset.png
 - IMG_<CharacterName>Draft.png
 - Enemies
 - <EnemyName>
 - IMG_<EnemyName>Asset.png
 - IMG_<EnemyName>Draft.png
 - Static Objects
 - Big Objects
 - <ObjectName>
 - IMG_<ObjectName>Asset.png
 - IMG_<ObjectName>Draft.png
 - Small Objects
 - Golems
 - IMG_<GolemName>Asset.png
 - IMG_<GolemName>Draft.png
 - Ideas
 - NOTE_FirstPuzzle.docx
 - NOTE_Mechanics.docx
 - NOTE_PuzzlePrototyping.docx
 - NOTE_BossFight.docx
 - Maps
 - <AreaName>
 - IMG_<AreaNameDraft>.png
 - IMG_<AreaNameMap>.png
 - <LevelName>
 - IMG_<LevelNameDraft>.png
 - IMG_<LevelNameMap>.png
 - Section<Number>
 - IMG_<SectionNameDraft>.png
 - IMG_<SectionNameMap>.png
 - Pictures
 - <BriefDescription>.<AnyImageFormat>
 - SteampunkBuilding.jpg
 - RPGMakerMV
 - <RPGMakerMV project default structure>

- Level Design Document
 - DOC_LevelDesignDocument.docx
 - Characters
 - <CharacterName>
 - IMG_Characters_<CharacterName>InterpersonalCircumplex.png
 - IMG_Characters_<CharacterName>Circumplex.png
 - IMG_Characters_<CharacterName>Avatar.png
 - IMG_Characters_<CharacterName>Concept.png
 - PS_<CharacterName>InterpersonalCircumplex.psd
 - PS_<CharacterName>Circumplex.psd
 - Templates
 - PSTEMPLATE_<Description>.psd
 - Level Diagram and Level Description
 - <LevelName>
 - DOC_LevelDiagram+LevelDescription.docx
 - <AreaName>
 - IMG_LevelDiagram_<AreaName>.png
 - PS_LevelDiagram_<AreaName>.psd
 - NOTE_LevelDiagram_<AreaName>.html
 - IMG_LevelDescription_<AreaNameConcept>.png
 - Sheets
 - NOTE_EnemiesStats
 - NOTE_SophieStats
 - PSTEMPLATE_CharacterSheet.psd
 - IMG_Sheets_Sophie.png
 - <EnemyName>
 - IMG_Sheets_<EnemyName>Avatar.png
 - IMG_Sheets_<EnemyName>Concept.png
 - IMG_Sheets_<EnemyName>Sheet.png
 - PS_Sheets_<EnemyName>Sheet.psd
 - Story
 - DOC_Story.docx
 - Story Flow Chart
 - NOTE_Story_StoryFlowChart.html
 - IMG_Story_StoryFlowChart.png
 - Periodic Table Of Storytelling
 - IMG_Story_PeriodicTableOfStorytelling.png
 - PS_Story_PeriodicTableOfStorytelling.psd
 - Interpersonal Circumplex Legend
 - IMG_InterpersonalCircumplex_Legend.png
 - PS_InterpersonalCircumplex_Legend.psd
 - Settings
 - <LevelName>
 - IMG_<AreaName>Concept.png
 - IMG_<AreaDetail>Concept.png
 - World Diagram and Goal Outline
 - DOC_WorldDiagram+GoalOutline.docx
 - IMG_WorldDiagram.png
 - NOTE_WorldDiagram.html

5 - File Naming Convention

- Every file name must follow the format “**TYPE(_Chapter)_Description(_Size)**”, where:
 - **Type** is the file type written in uppercase (DOC, IMG...)
 - **Chapter** is the corresponding chapter of the level design document table of contents which the file belongs to (Story, Level Diagram...). Files related to prototyping don’t have a chapter to belong.
 - **Description** must be written in CamelCase (SophieAvatar, SteamCastleConcept ...), must be self-explanatory and must not repeat the informations in the name of the folder where the file is (eg. naming a file “IMG_WorkerHenchman**Enemy**.png” under the “Enemies” folder is a unnecessary repetition).
 - **Size** is needed to be specified only in files used for concepts and reference images:
 - **S** less than 1280x720 px
 - **M** more than 1280x720 px
 - **L** more than 1920x1280 px
- File name modules must be separated by an underscore “_”.
- Dates must follow the **YY/MM/DD** format.
- The names of the images in “**Pictures**” folder must always be modified with a brief description before being pushed on the online repository. They mustn’t be pushed with their default name (eg. “20181023_175346”). From “Pictures” they will be evaluated and modified accordingly to their purpose.

Here there are some examples:

5.1 - Text

DOC_Story_HighConcept.docx
NOTE_Story_PossibleTropes.txt

5.2 - Images

IMG_WasteDisposalMachinery_M.png
IMG_LevelDiagram_WasteDisposalPlant.png
IMG_Characters_WilliamAvatar.png

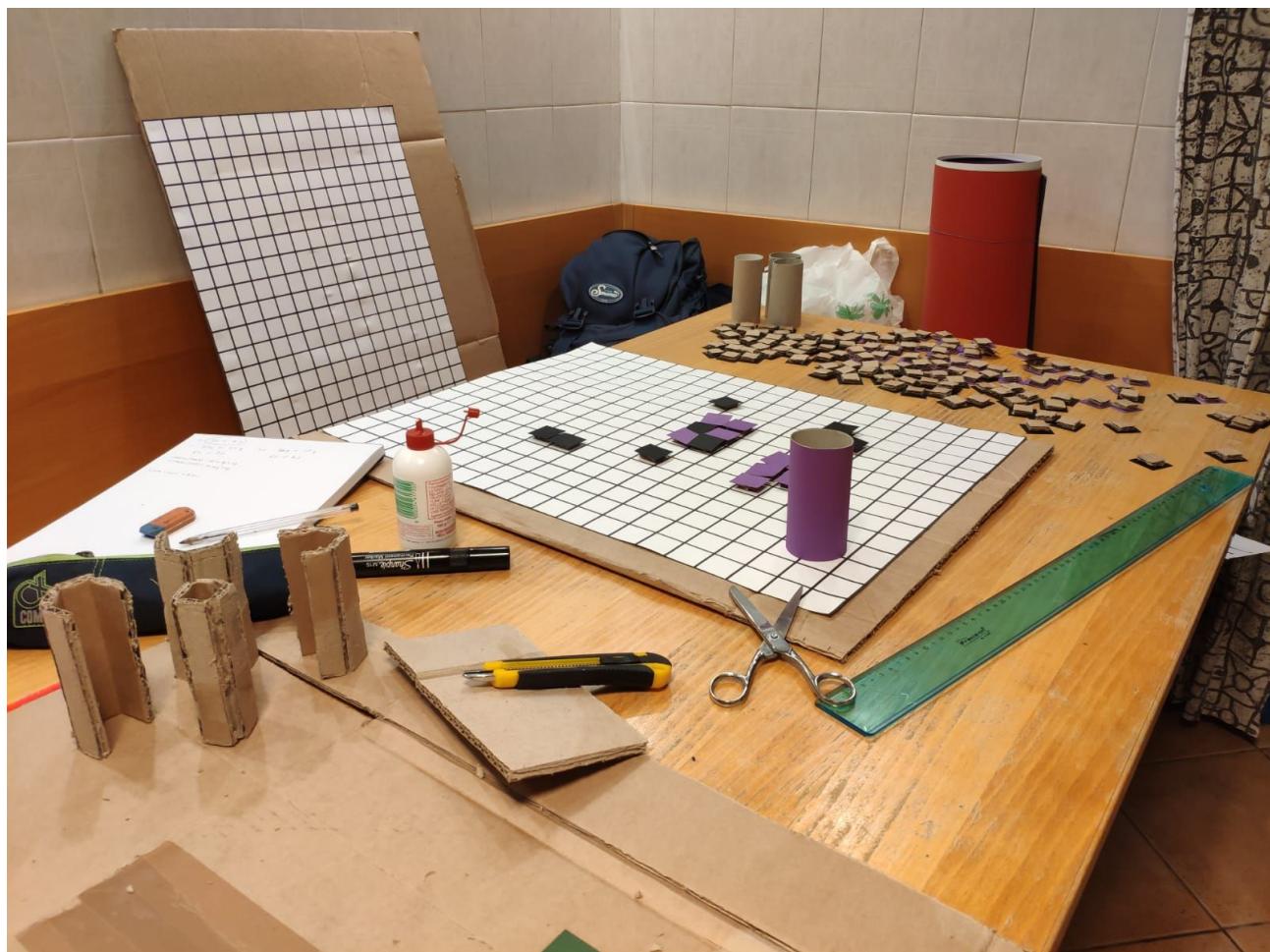
5.3 - Image Editing

PSTEMPLATE_Characters_InterpersonalCircumplex.psd
PS_Setting_DeforestationPlant.psd

5.4 - Audio

AUD_FireSoundEffect.wav
AUD_MenuSong.mp3

Prototypes Section



A “work in progress” picture of the physical prototype

1 - Digital Prototype

1.0 - General informations

We've decided to focus our digital prototypes on the puzzles of our level to test properly if they were fun and entertaining. Other than this, most of these puzzles are in real-time, making it difficult a static test on paper.

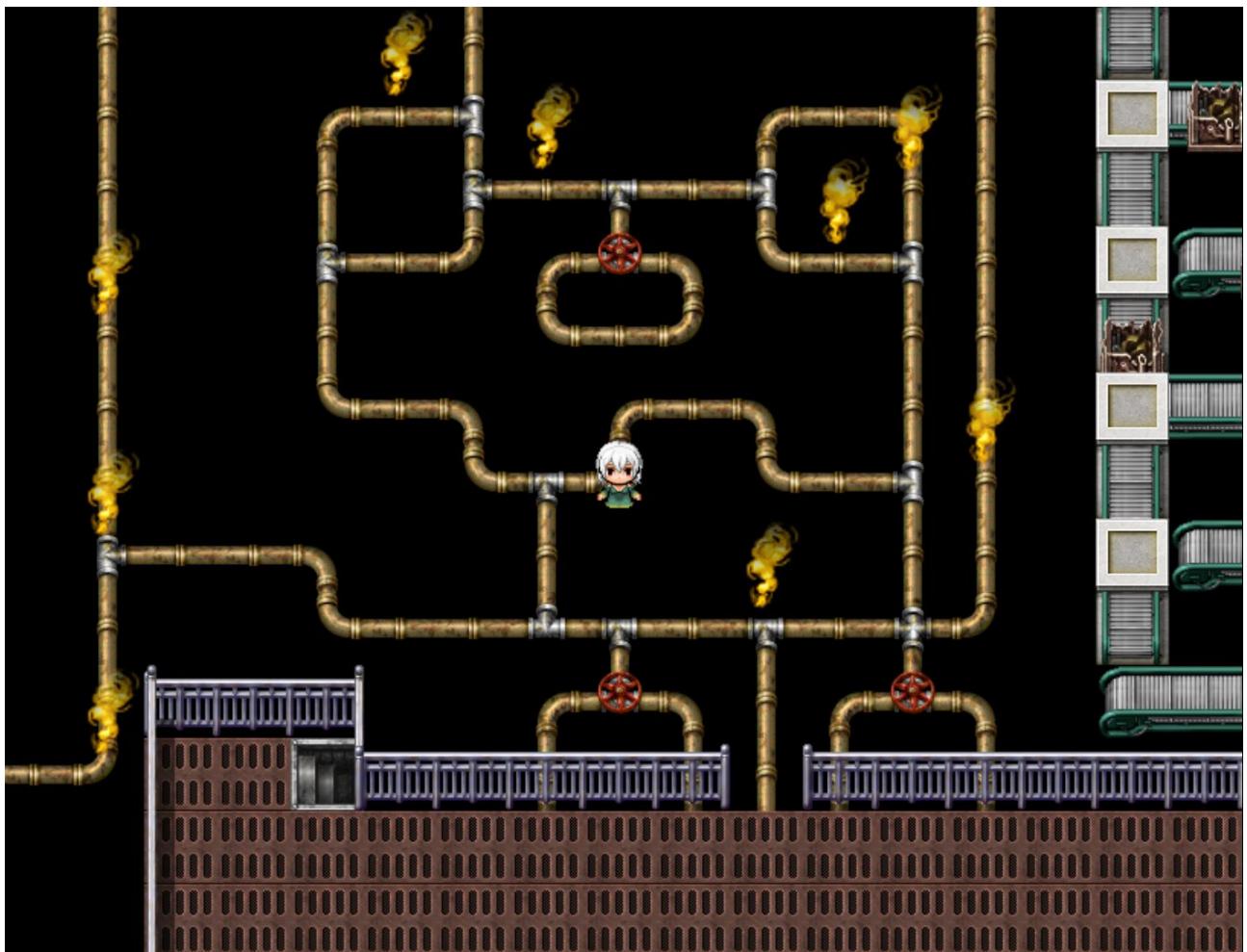
We've chosen to use Rpg Maker MV version 1.6.1 (Kadokawa Corporation© 2015).

This tool, among the others, provided a lot of resources that could be used straight away for an acceptable representation of the environment, as well as characters and items.

Also with its “event programming” feature, it provided a fast way to implement most of our puzzle-oriented gameplay mechanics such as golems animation (we will see all of them in detail in the next pages).

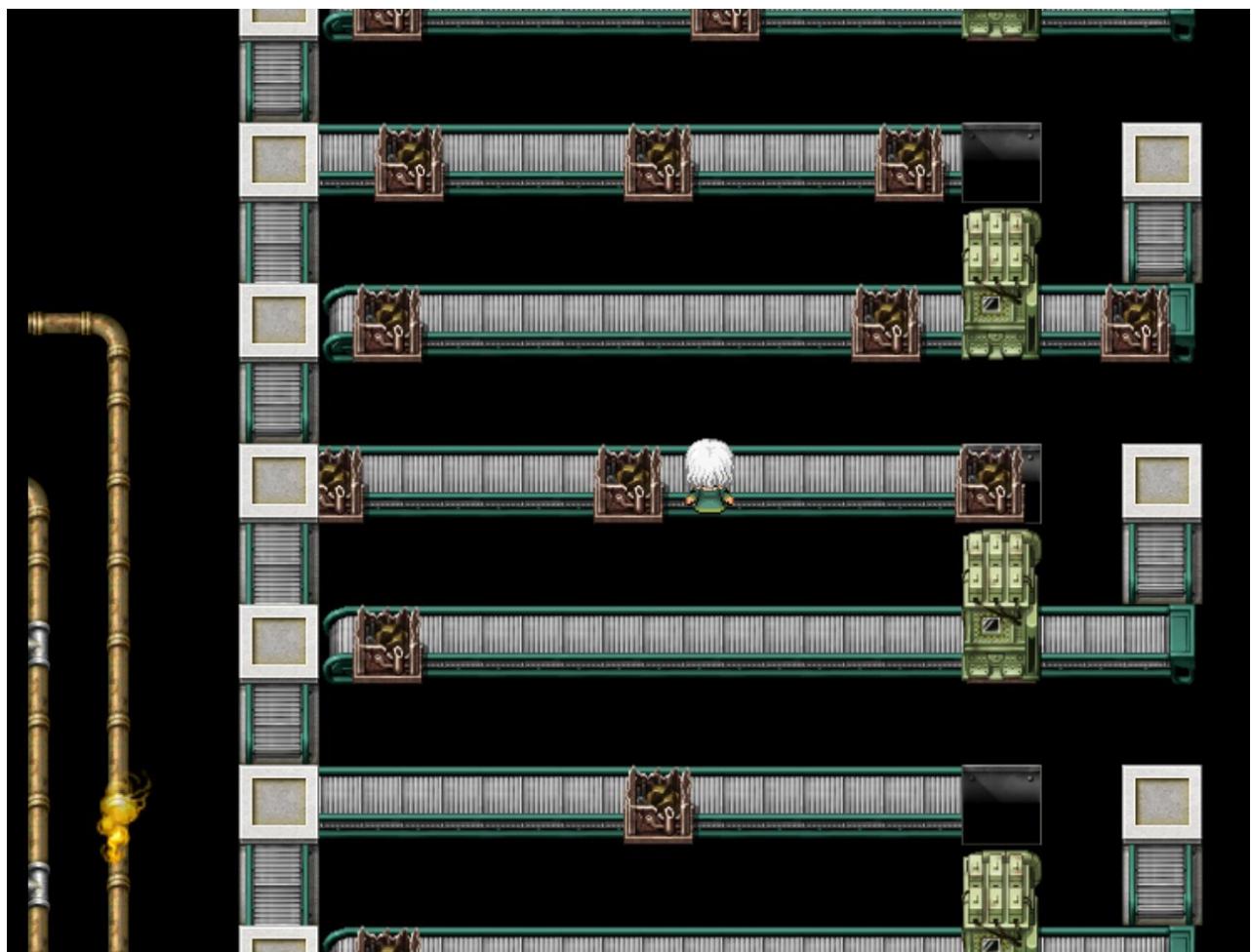
We've decided not to implement any encounter nor any combat-related feature (HUD, enemies' AIs, telekinesis and fire attacks) because they would have taken much more time than testing them on paper, which already provided us everything we needed.

1.1 - Pipe puzzle (Plant area)



In this picture you can see Sophie walking on the pipes labyrinth of the first area. The valves are working as intended (puzzle [details](#) at page 100) with the 3 valves opening and closing different steam jet emissions. Pipes are quite smaller than what we had in mind since they don't give the impression to being able to walk on, but they're good enough to test the puzzle.

1.2 - Conveyor belts platform sequence (Plant area)



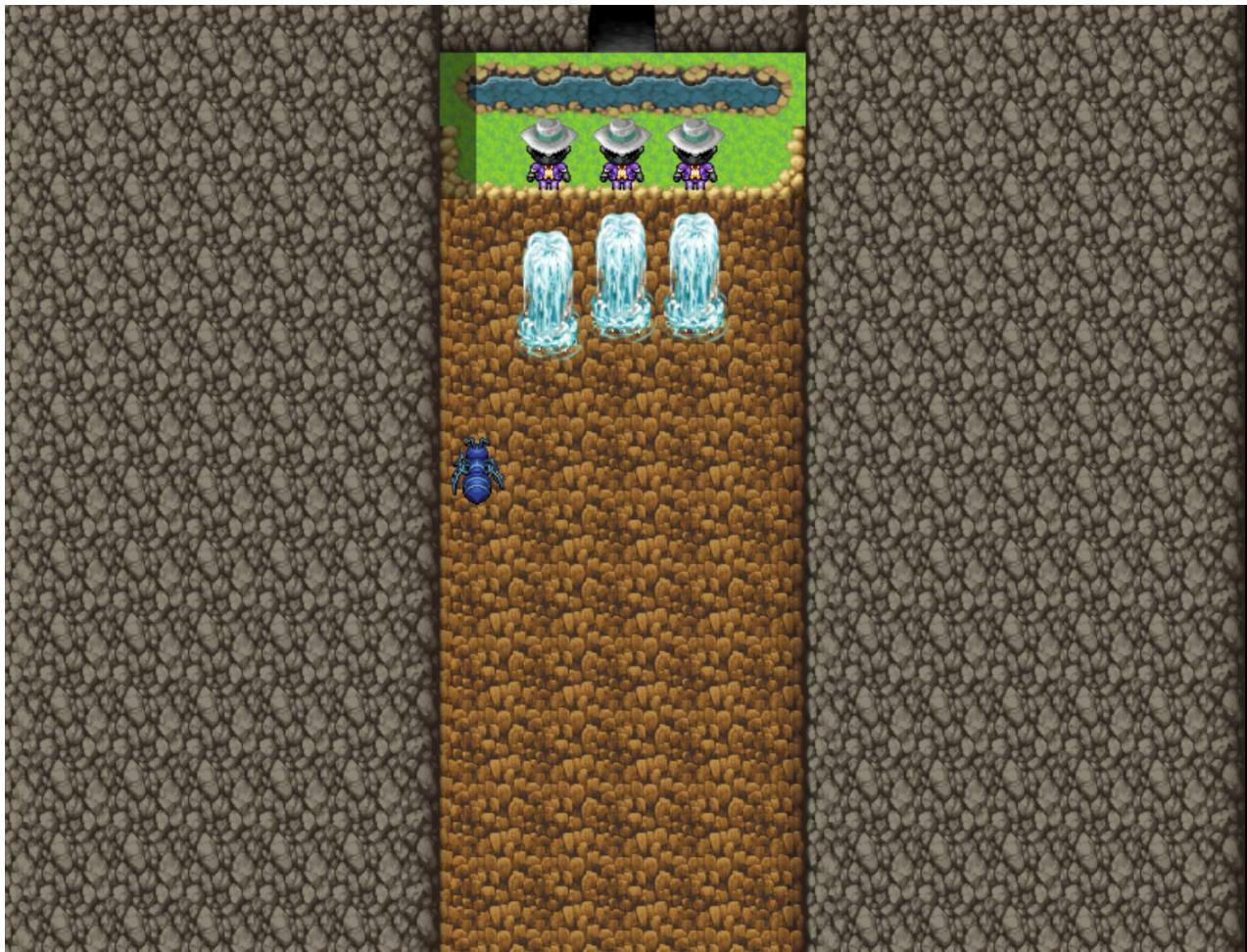
In this picture you can see Sophie jumping on the conveyor belts to reach the other catwalk. Waste cubes are moving accordingly to the [pattern](#) at page 100. Conveyor belts with holes are right-oriented, while those with the compactor are left-oriented. If Sophie stands still on a conveyor belt she will move with them. If she moves in the opposite direction her speed movement is greatly reduced, while is greatly increased if she moves in the same direction. In any time Sophie can jump to the conveyor belt in which she is facing, but will fall if ends up touching one of the waste cubes which act as moving walls. She will also fall if she reaches the end of any conveyor belt. The waste cube that can be seen in the top-right corner should be a generic pile of garbage and a waste cube should be generated when it moves within the compactor, but for a matter of simplicity we've left them all always with the same appearance.

1.3 - Landslide puzzle (Outside area)



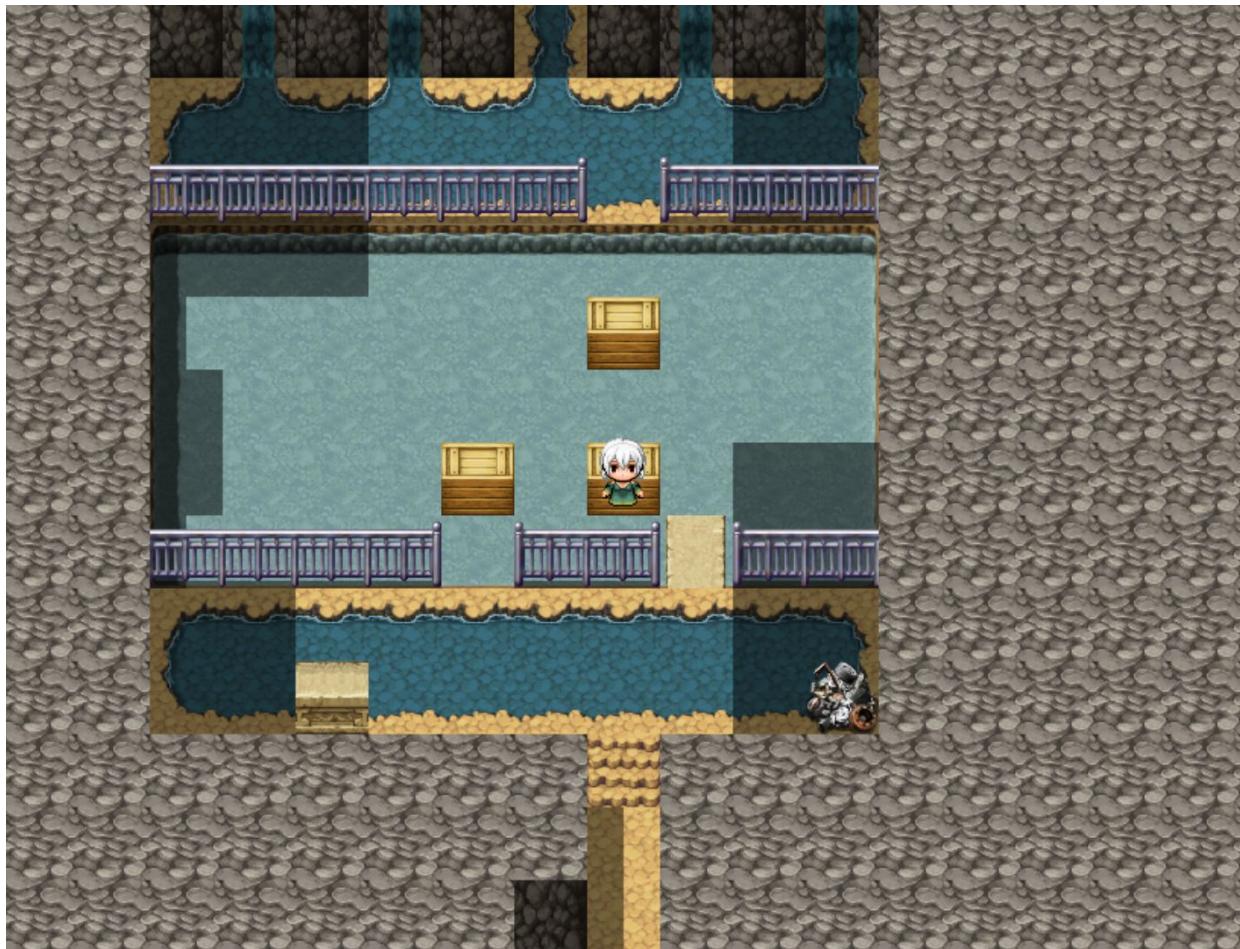
In this picture you can see Sophie within the “Gorilla” golem moving one of the movable boulders (the spheric ones). It is also possible to animate a “Mole” golem with which you can dig in one of the patch of soil (the sand-like tiles). Since we wanted to focus on the resolution of the puzzle ([details](#) at page 106) we've not implemented the rain effect and the related damage.

1.4 - Rocky wall climbing sequence (Outside area)



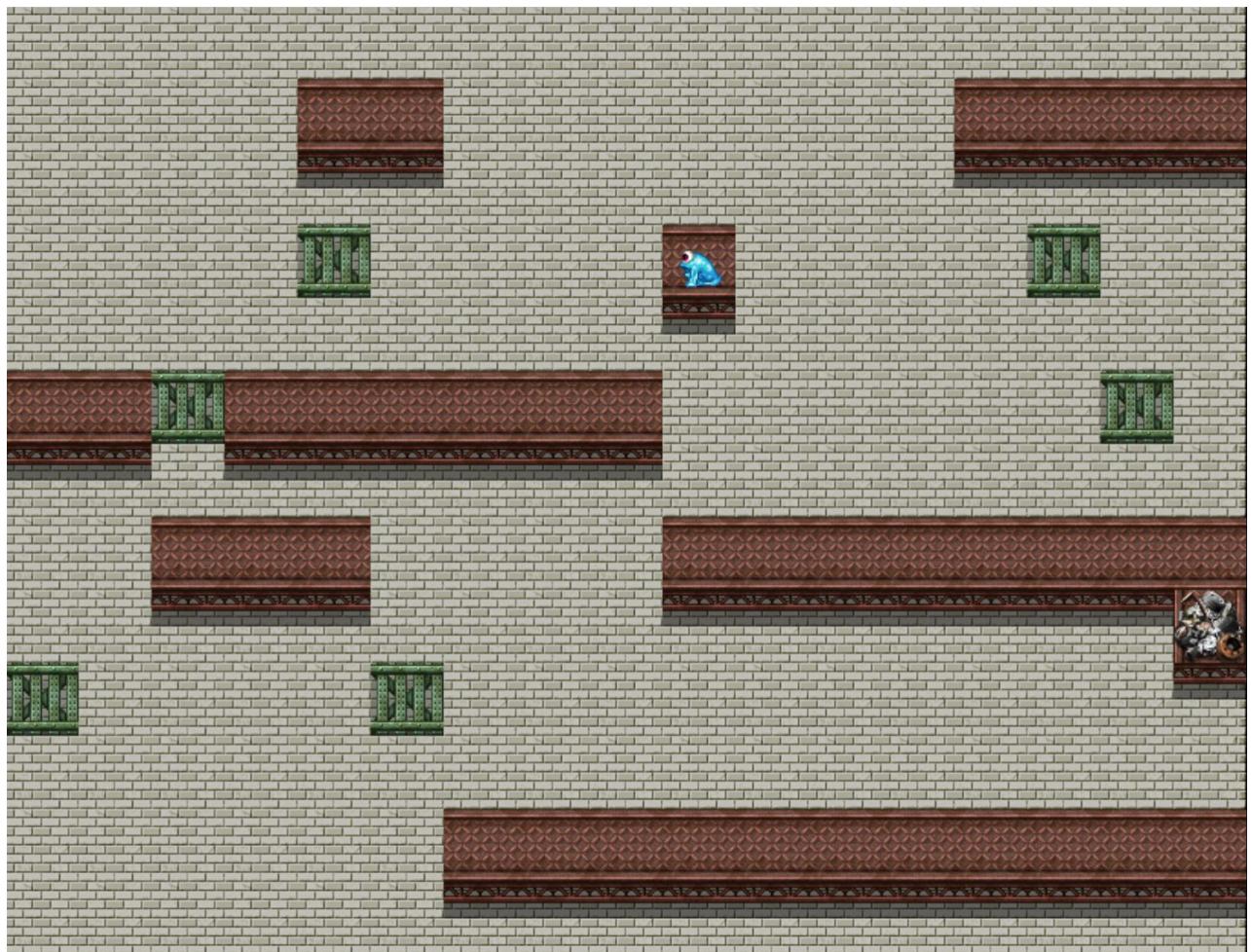
In this picture you can see Sophie within the “Spider” golem climbing on the rocky wall while avoiding the bucketfuls of water. The henchmen move around the 5 positions in a specified pattern ([details](#) at page 106) and the bucketfuls moves in a straight line from their position to the bottom of the Rocky wall, so that the player knows exactly where are they going to throw them. In case Sophie gets hit, she will lose balance and fall back at the beginning of the climbing. Since the only purpose of this prototype was to test the puzzle, we recreated only this part of the actual Rocky Wall area (see level [diagram](#) at page 73). Henchmen cannot be interacted with, so this sequence is considered completed whenever the player reaches the top of the rocky wall.

1.5 - Tunnels puzzle (Tunnels area)



In this picture you can see the first floor of the tunnels area (puzzle [details](#) at page 112) with the water raised by one level, and Sophie jumping on the floating crates after placing them in the right position in order to reach the other platform. In the prototype the water raises and lowers correctly, changing the state of the map by blocking the drainage channels with the boulders. You can see the shadows from the second floor that act as visual directions on how to place the crates when the water will raise to the second floor. Three kinds of floor tiles can be distinguished: the water tile that represent a flooded area in which Sophie can't walk; the wet floor tile, a clue that suggest where the water is likely to flow but in which Sophie can walk and the normal dried floor in which water doesn't flow unless you completely flood the floor by taking the water to the next one. You can see the two sliders: one on the down-left corner which is the one coming from the second floor, and the other one close to Sophie that leads to the ground floor (unavailable right now because of the water). All sliders and stairs take the player to a different map, the latter can also be used to take boulders from one floor to another. While they can't be seen correctly here, there are several waterfalls both on the wall of the upper platform and on the wall of the lower platform to suggest how the room is filled with water and from where does it come from. Finally the ladder on the southern platform, while it seems to be going down, is actually going up from Sophie position and that's why the small corridor has dried tiles.

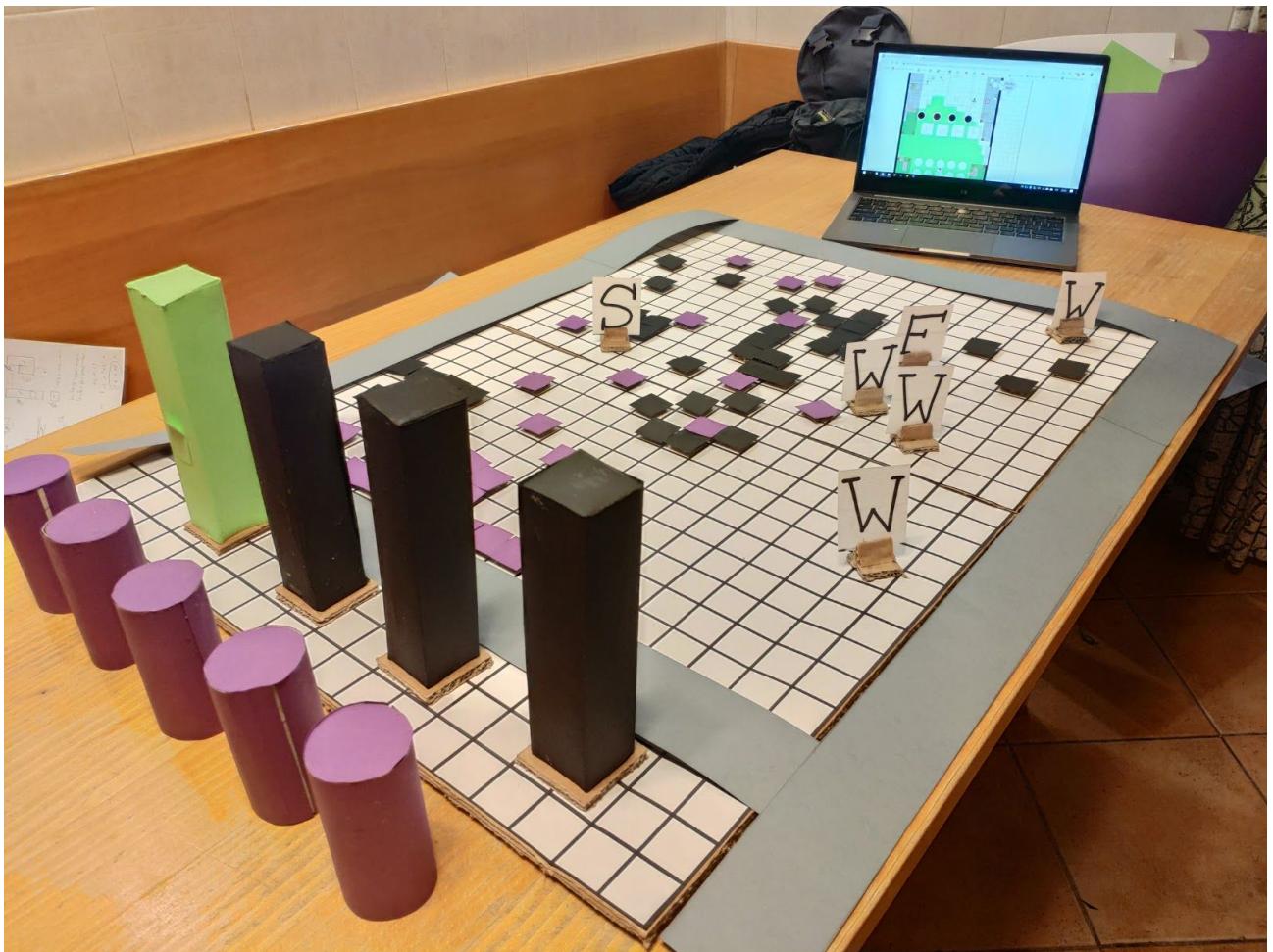
1.6 - Scaffolding platform sequence (Balconies area)



In this picture you can see the “Frog” golem on one of the platforms of the scaffolding. Differently from the other maps, in this one going up means actually moving vertically, for this reason the width of this map is the least possible with 1 meter for each platform except some with another square dedicated to the debris to ensure the player can reach them at any time. The red rusty platforms are the ones still, while the green ones are those that start shaking in the moment Sophie touches them. If she remains on the shaking platforms for more than 1 second she loses balance and falls down to the platform under it. The jumping action is done by pressing the ENTER button while facing a certain direction, the length of the jump depends on said direction covering 5 meters horizontally and 2 meters vertically. If there’s no platform in the direction you want to jump, the action can’t be done. There’s no way to modify the length of the jump so if you have a platform at 4 meters of distance you still have to cover all the 5 meters.

2 - Physical Prototype

2.1 - Playtest grid

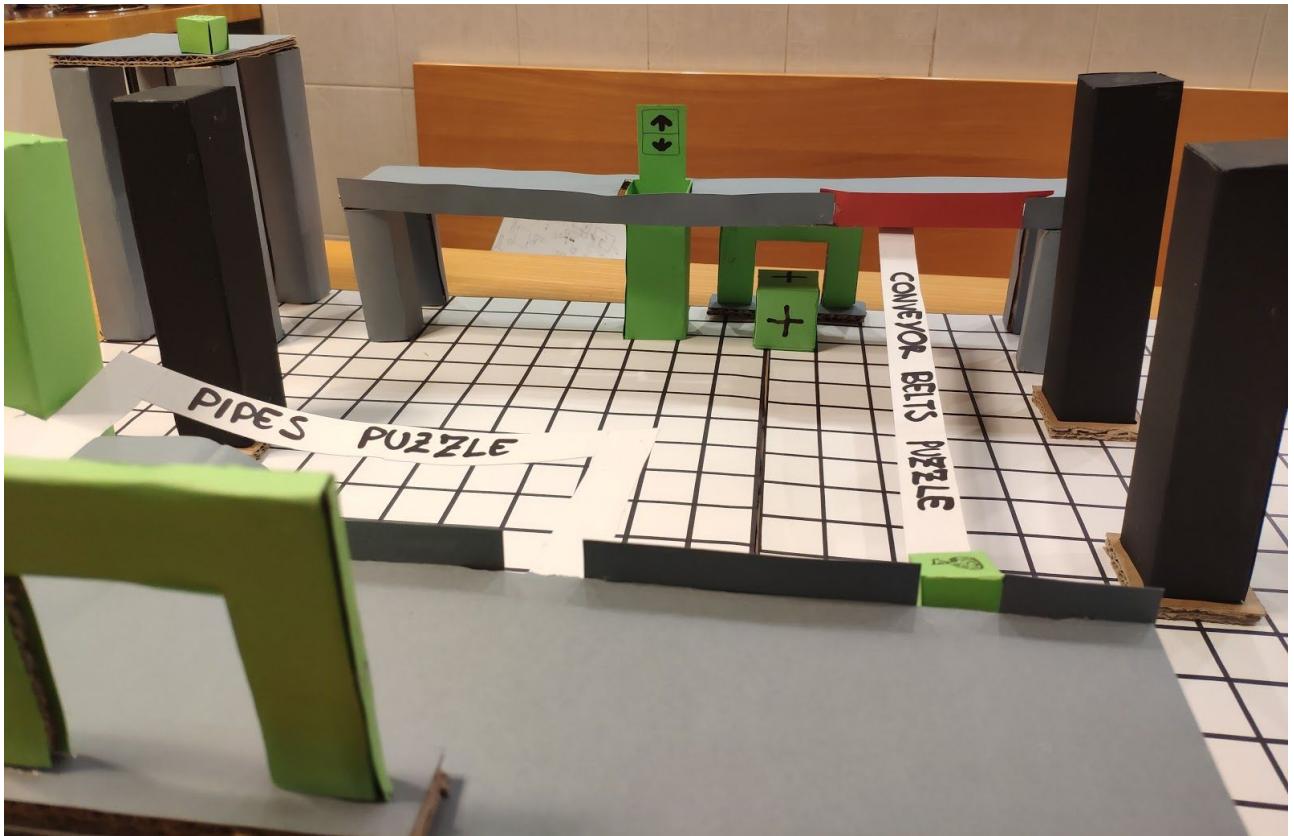


In the design process of every standard encounter we needed an easy way to immediately change every element of their arena and playtest them right away.

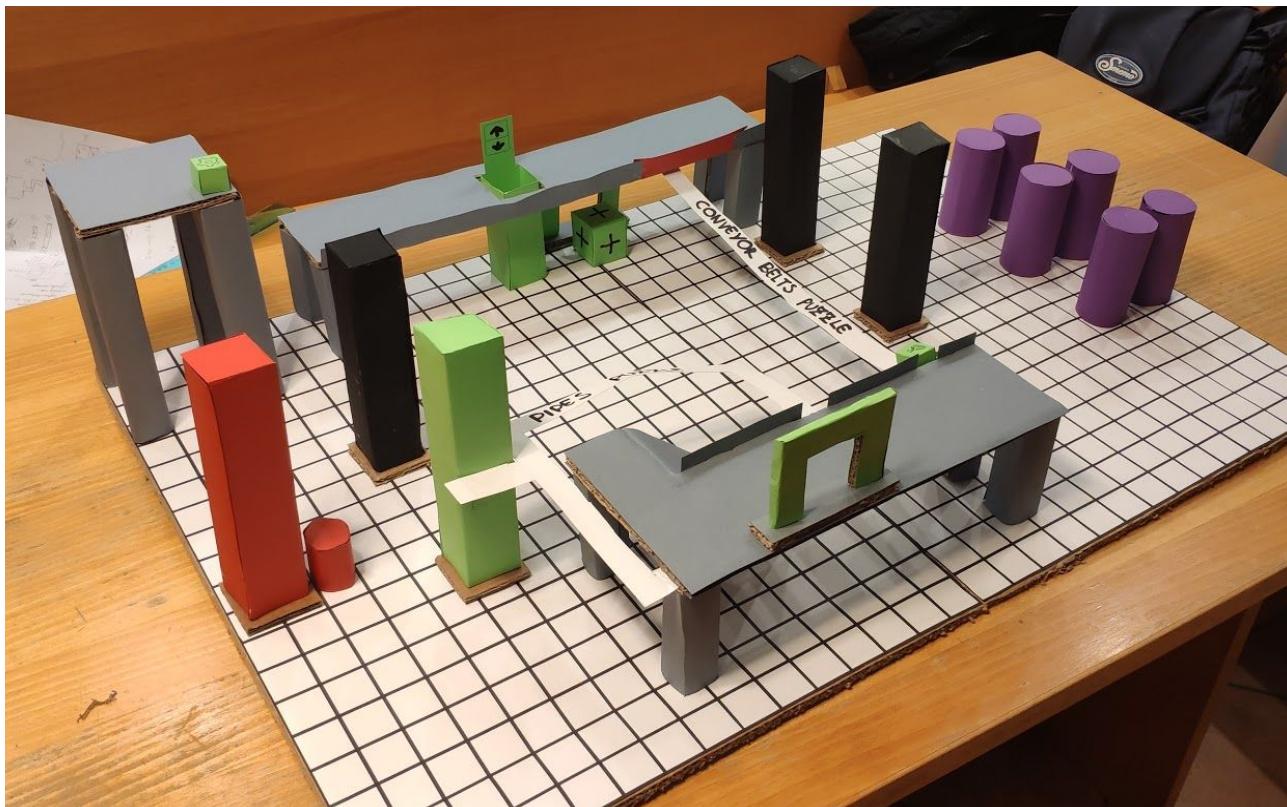
We chose to make a large grid divided in two pieces to be easily transportable and a set of tiles of two different colours: black for walls and generic obstacles, purple for particular walkable spots that have some effects, in this case they're poison puddles that hurt anyone who walks above them. There are four long grey rectangles to make the arena smaller by putting them onto the grid sides. We also created some very simple markers (but more than acceptable for our purpose) to identify Sophie ("S") and the various types of henchmen ("W" for Worker and "F" for Firefighter in this example).

In the picture above you can see a playtest of the [first encounter](#) of the level (page 97).

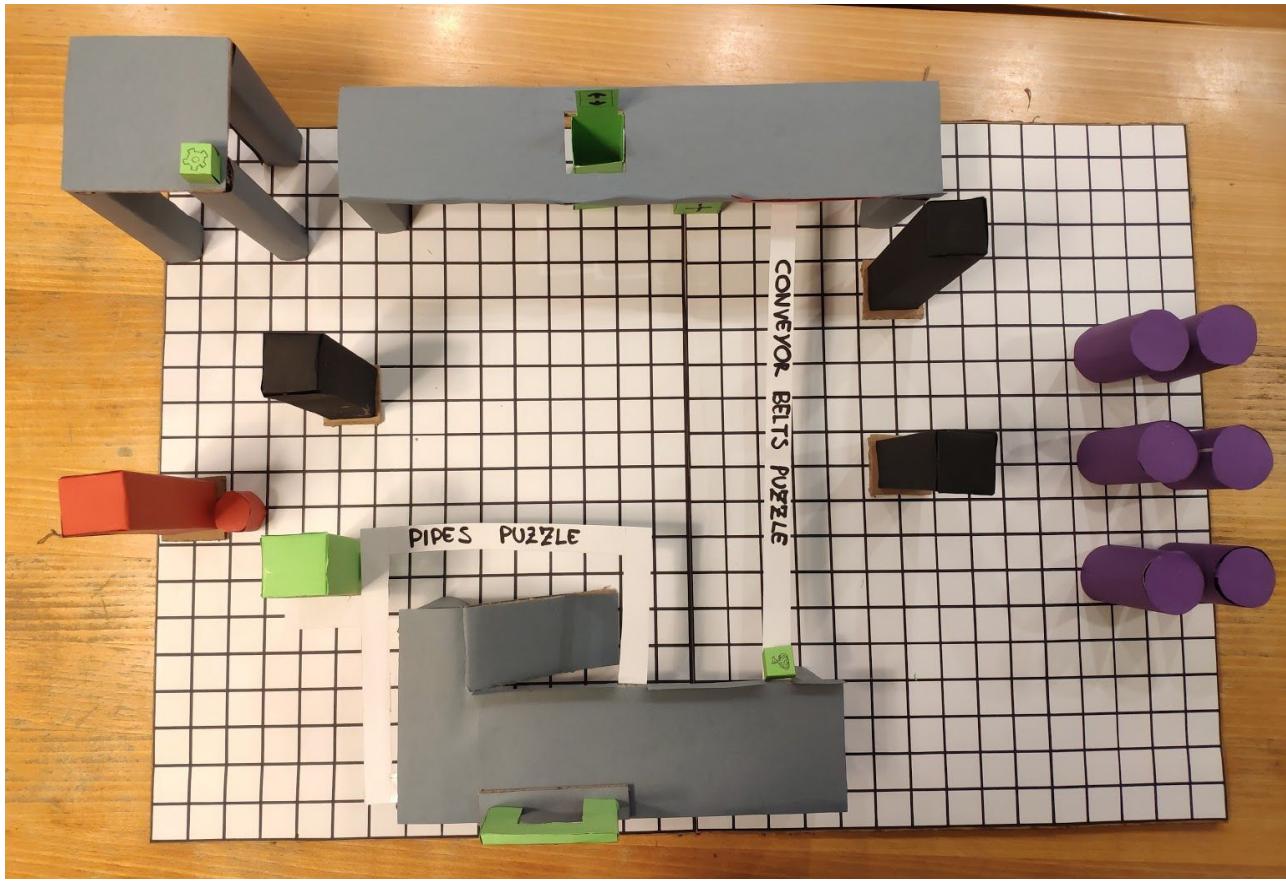
2.2 - Demonstrational prototype



We choose to make a physical demo prototype for the “Plant”, the first area of the level, because its progression touches more floors at once, so it’s the hardest area of the level to be shown exhaustively on a 2D diagram. From this angle are clearly visible both the starting point (the green door on the bottom-left corner) and the final point (the green door behind the green box).



To make this we used thick cardboards as bases and coloured cardboards to highlight every element properly. Everything that is green are the elements useful to proceed in the area, in grey there are walkable platforms, in purple there are the silos containing poison and in black the compactors that in this prototype have the only purpose to better understand the dimensions and distances between the other objects. Finally in red there is everything related to explosions (see the details of the whole area and its progression at page 58).



Many things of the area have been left out from this prototype because they were unnecessary to show the way to proceed through it, otherwise the demonstration would have been much more cumbersome. For example compactors are only half of their total because 4 were enough to understand their positioning and the pattern they follow through the plant (and only one of them is important to progress in the area, the green one on the left). Also the silos follow the same logic (they are 6 instead of 10) and there is only the important platform for the progression at the top left corner instead of one in every corner.

There are two tapes of white cardboard that extremely simplify the puzzles that should be in their places, but we wanted to show how to advance through the area in its whole and to prototype those puzzles in digital.