

SHADOW CITY



WFC ALGORITHM GENERATED GAME SPACE

GROUP PROJECT

DIRECTION/
Game Design

ROLE & CONTRIBUTION/
Ideation 40% Visual Design 40%
Algorithm 50% Game Development 50%

TEAMMATES/
Jiacan Li & Xinyi Shu & Jiajun Zhu

TIME/
2024.10-2024.11

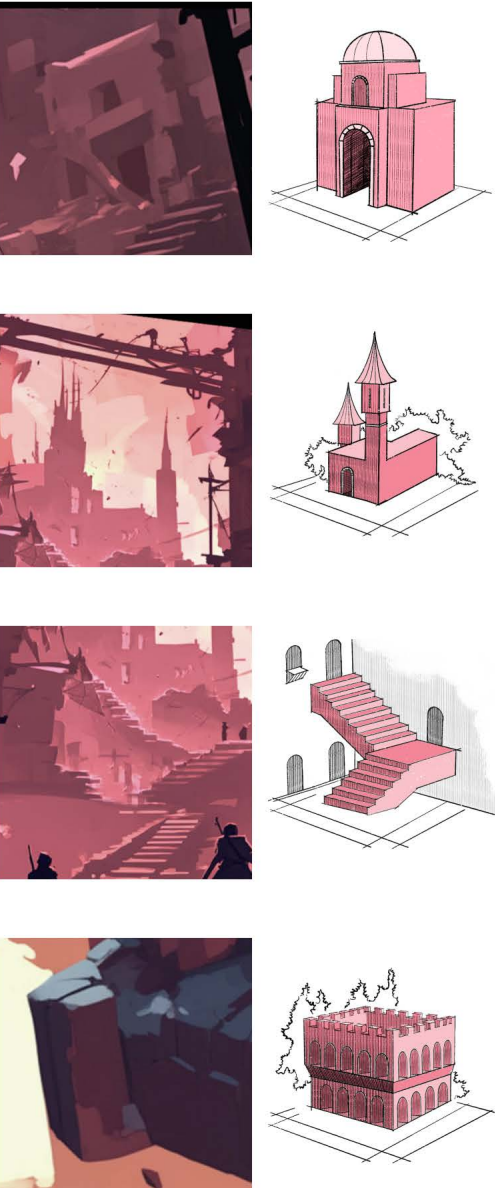
Concept

In a world thrown into chaos, Alice discovers that the balance between light and darkness has been disrupted. At the same time, her best friend Lila mysteriously disappears. Determined to find her, Alice sets off on a journey, using her special shadow powers to uncover the truth. As she ventures deeper, Alice learns that an evil wizard is behind it all. He has kidnapped Lila and plans to sacrifice her shadow, which holds incredible power because Lila is a witch. In the end, Alice bravely faces the wizard, defeats him, rescues Lila, and restores peace to the world. This is a story of courage, friendship, and the determination to bring light back to a world shrouded in darkness.



IMAGE GENERATED BY MIDJOURNEY WITH MODIFICATIONS

Elements



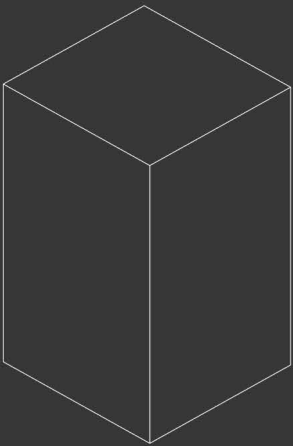
Preface



Slot Generation Process

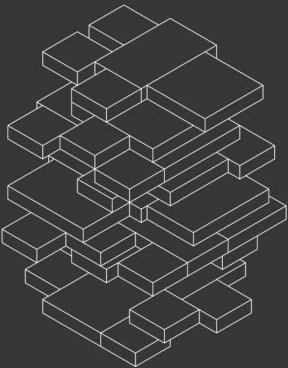
STEP 1:

Adjust the cuboid size to limit the range of models to be generated.



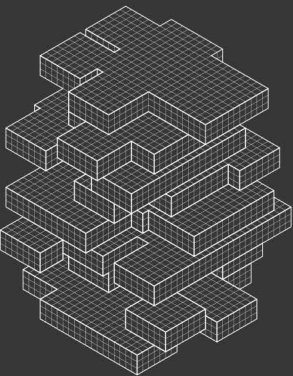
STEP 2:

Use the plug-in Wasp to generate the platforms in the cuboid range in grasshopper.



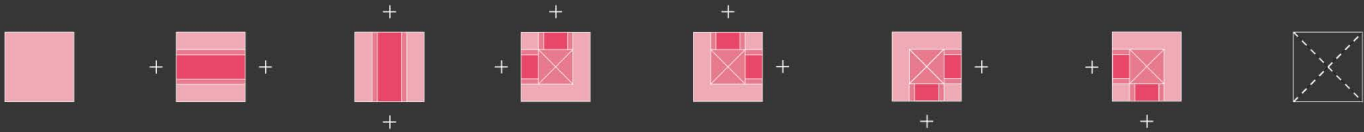
STEP 3:

Use the plug-in Monoceros to generate the slots through the platforms.



2D Module & Rule

The space is automatically filled using a digitally developed wavefunction collapse algorithm and labelled '+' or '-' (one side of a voxel with a '+' sign can be connected to another voxel on the same axis with a '+' sign). 19 units of the main functional categories have been set up, some of which have modular variations in size (basic module: 1x1x1 metre). These units are evenly distributed in the set space and are connected to a number of paths and platforms.

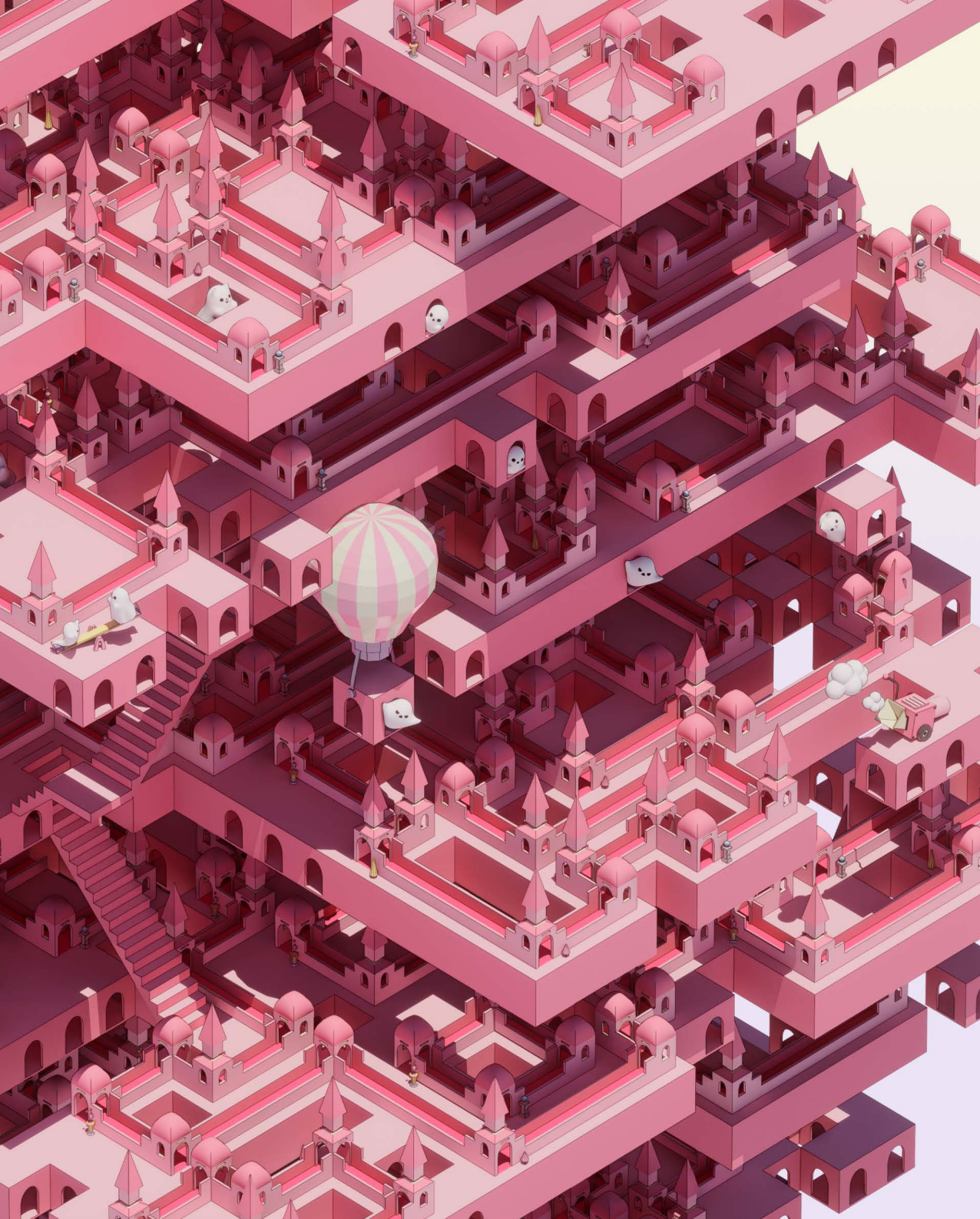


Seed 1

Seed 2

Seed 3

Seed 1		Seed 2		Seed 3	
Observation		Observation		Observation	



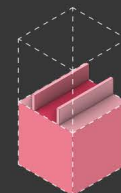
3D Generation Catalog



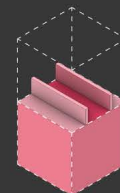
Block



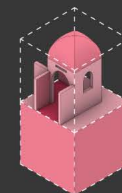
Empty



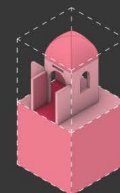
Corridor1-1



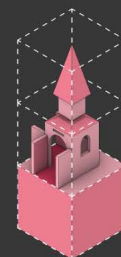
Corridor1-2



Tower1-1



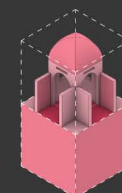
Tower2-1



Tower3-1



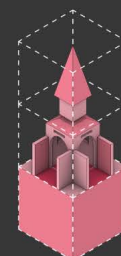
Tower4-1



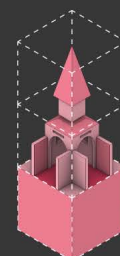
Tower1-2



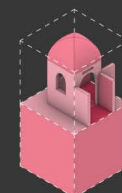
Tower2-2



Tower3-2



Tower4-2



Tower1-3



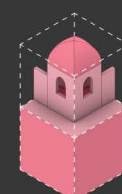
Tower2-3



Tower3-3



Tower4-3



Tower1-4



Tower2-4



Tower3-4



Tower4-4

Game Interfaces



03 Fight under the Sun

In this chapter, when Alice eats 🍌, Alice's shadow can attack under the sun for a maximum of 60s. during these 60s, Alice needs to try to defeat the light warrior, who will drop 5 🍌 when he is defeated. when Alice eats 20 🍌, Alice's shadow will gain the ability to attack under the sun for a permanent period of time.



02 Shadow Illusion

In this chapter, Alice needs to arrange her shadow to reach the (shadow of the) props she can't reach, look carefully, there may be what you want on the spire of the tower in the distance... Of course, be careful of the monster's surprise attack!

Main Characters

Alice

The protagonist with the ability to manipulate shadows. Alice herself has not learned any martial arts, but her shadow is a powerful swordsman. In the early stages of the game, her shadow's attacks are only maximized under the shadows of other objects, and after a series of fights to grow up, her shadow is able to defeat dark wizards in sunlight.



Shadow Eater

Active in lower floors
• Shadow has aggressiveness
• When Alice's shadow and monster's shadow have a fight, **monster's power in the shadow of the building will be enhanced.**
• If Alice is attacked, ❤️ -1.



Light Warrior

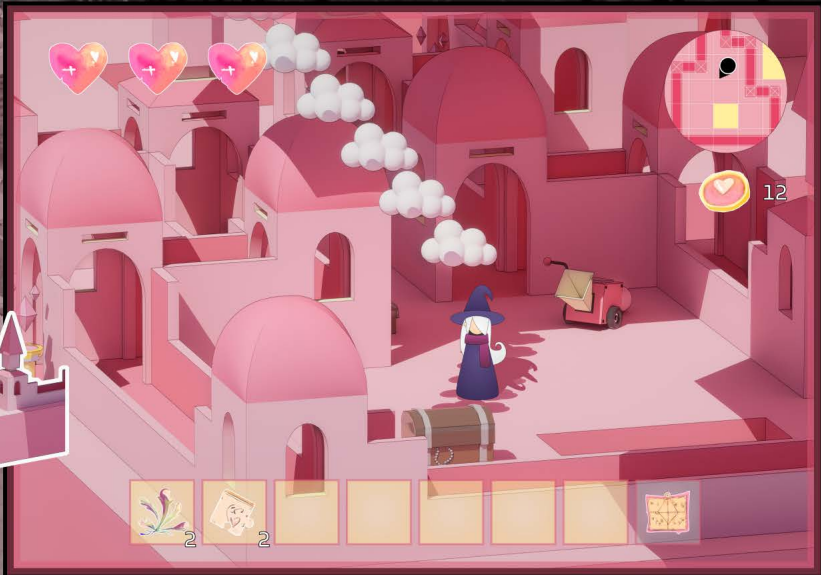
Active in higher floors
• Has strong aggressiveness.
• If Alice **wins**, she can get 🍌 ×5
• If Alice **is attacked**, ❤️ -1



04 The Finale

End

The final mystery location needs to be unlocked by collecting all 20 🗺️ in the map!



01 Hide in the Shadow

In the beginning, Alice needs to walk in the shadows all the time due to the fact that her own shadow has no ability to attack in sunlight. Cross the square with the help of the Cloud Maker!

Items



HP

Times you can be hit



Coin

Collect for purchase



Fragment

Collect to find the castle



Herb

HP++



Crystal

Attack++



Boosting
Potion

Attack in the sun for 60s



Purifying
Potion

Save Lila's shadow



Keys

Open the castle



map

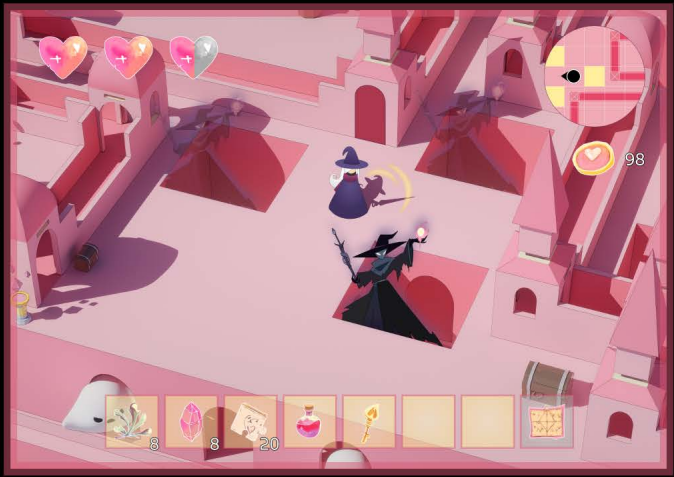
Find your way

3D Game Scene

Evil Wizard

Hidden in a mysterious castle on the top floor

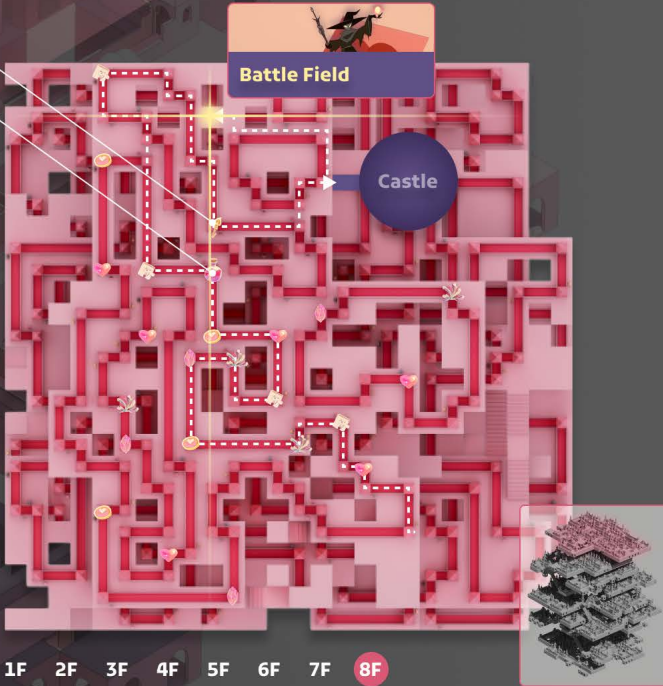
- Has extreme aggressiveness
- Capture and sacrifice witches' shadows to control the light and darkness of the world.
- If defeated, Alice can open the castle to rescue her friend Lila and restore the balance between light and darkness.



04 The Finale

In the final chapter, Alice needs to use the key she found to open the door of the wizard's castle and defeat the wizard to save her friend Lila's shadow from being sacrificed by the evil wizard, and to restore the balance of light and darkness in the world. Alice needs to manage her shadow to duel with the unpredictable wizard. It is similar to the game of whack-a-mole, but note that Alice's shadow is fixed in one direction... unless you can find a hidden way to make the shadows rotate!

Game Map



Ghost

Active on every floor

- Has no aggressiveness
- Traveling merchants. Alice can buy props from him/her.
- When Alice completes the ghost's task, he/she may also send random gifts.



Immersive Game Scenes

These scenes showcase Alice's journey from a ground-level view, including soaring in a hot air balloon, navigating a labyrinth, uncovering key props, using a cloud-making machine and climbing staircases, .



User Testing

Joyce 18

"I think the setting of the game appeals to me, and the concept of shadows is very interesting! The gameplay might have been better if it had been done more with the shadow concept! "



John 23

"Due to the uncertainty in the design of the paths and the relative abundance of buildings and scenes, it provides players with a rich gameplay experience in the process of clearing the maze."



Ted 25

"It demonstrates exquisite architectural art. A variety of spatial effects such as clever loops, breaks, and optical illusions are used to build a seemingly simple yet unexpected labyrinth."

