

# Team RuYou's Game

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🎉👉 This project is a game developed by the "RuYou" team using the *pygame* library with the *python* language. It is a simple game that combines various game elements and game art design. Hope you can have fun in our Game! 🤩🤩🤩

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## Our Team Members

Here are the contributors 🙌👇



### 1 👤 王子涵

✉ [wangzh12023@shanghaitech.edu.cn](mailto:wangzh12023@shanghaitech.edu.cn)

对Boss模型，技能特效，Boss map，人物模型动画、枪械攻击特效等的编写，主地图元素增添，音频，使用素材等的修改，游戏规划建议，README编写

### 2 👤 匡鹏昊

✉ [kuangph2023@shanghaitech.edu.cn](mailto:kuangph2023@shanghaitech.edu.cn)

maze map中tiles，obstacles生成，monster移动设置，攻击设置的主要编写，会议内容总结，Files介绍。

### 3 👤 陈亦乐

✉ [chenyl2023@shanghaitech.edu.cn](mailto:chenyl2023@shanghaitech.edu.cn)

代码框架搭建, monster, npc等的编写, maze map辅助, 主地图, Portal, PopUpBox等的编写, 代码整体调试修改, 代码文件管理, 素材调整。

## Project introduction

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- Game Brief Introduction
- Project File Arrangement
- Game Composition

### Game Brief Introduction

#### 1、Game Name

- 冤申

#### 2、Game Type:

- 实时战斗冒险游戏

#### 3、Background:

- 刚考完期末考试的铁科学生周可儿发现自己被困在一座异世界的监狱中。为了回到原本的世界, 捍卫自己的寒假, 周可儿与典狱长伊格尔签订协议, 使用只有他才可以使用的神器杀死镇守迷宫的三个怪物, 以此来换取回到原本世界的机会。这个迷宫被神秘的力量分成了三个区域, 每个区域都寄宿着一枚珍贵的元素印记: 草、水、火。这些印记被分散在世界各地, 借助它们的力量举办仪式似乎是周可儿回到原本世界的唯一办法。但迷宫不是能够轻松穿越的地方, 而是一个充满危险和谜团的领域。随着周可儿逐渐收集到草水火三种元素印记, 他的力量也在不断增强。然而, 随着周可儿的成长, 迷宫中的敌人也逐渐察觉到他的存在。他们开始变得更加狡猾和强大, 随着时间的推移, 迷宫中的每个角落都弥漫着危险。周可儿必须谨慎行事, 不断提升自己的实力, 以抵御即将到来的更为恶劣的挑战。在这片深邃的迷宫, 周可儿的命运和三枚元素印记交织在一起, 谜题的答案隐匿在每个迷宫的深处。只有通过勇气、智慧和力量的融合, 周可儿才能解开这场神秘的诅咒, 带着元素印记的力量, 摆脱迷宫的束缚, 回到属于他的世界。

#### 4、Map Settings :

- 分为一个主地图和三个迷宫地图以及三个boss地图, 游戏开始时玩家出生在主地图, 并且玩家可以通过不同的传送门进入不同的迷宫地图, 在迷宫地图, 玩家可以打小怪并且需要通过自己的智慧找到boss们入口。

##### a) Main Map

- 主地图是主人公初始存在的地图，会有多个NPC 🧑 提供引导主人公进入不同的地图进行行动，可以与玩家进行交互并且交代故事情节。
- 同时存在商店，供玩家购买。
- 同时还存在三个传送门，主人公通过与主地图中的石雕接近来进入不同的迷宫地图。
- 无论打 🐙 失败与否，在迷宫地图之旅结束后都会先传送到主地图。在玩家通过对应迷宫后该传送门会消失。

#### b) Maze Map

- 每个迷宫地图都有一些小怪和障碍物，只有消灭小怪并且找到BOSS入口才能进入BOSS地图与 🐙 进行战斗。（玩家一旦进入BOSS战斗区便不能出来）
- 迷宫的障碍物和小怪位置是随机的，会有一个检测功能（ BFS ）来确保主人公能够抵达 🐙 所在地。（确保迷宫是可以走出的）
- 触碰到障碍物墙壁无法穿越。
- BOSS可以移动并且可以向四面八方攻击，小怪是在小范围移动的并且不具备攻击能力。
- 含有宝箱
- **！** 请尽可能多的击杀小怪以获得更多的金币提高防御、血量或者攻击值，否则在下一关的boss对战中可能会很困难。

#### c) Boss Map

- 不同的地图Boss不同，并且会有不同的攻击方式：
  - 碰撞攻击：与Boss接触后会损失血量值
  - 技能攻击：被Boss发出的攻击波击中会损失血量值
  - Boss技能：移速增快，发出攻击波，在地图中随机生成旋涡波。

### 5、Character Moving Settings 🧑 :





- 当主人公远离地图边界时，主人公坐标始终位于镜头中央，镜头移动；靠近地图边界时镜头保持固定，主人公坐标移动。

### 6、Battle Settings:

- 通用设置：每通过一关的 🐙 ，下一关的 🐙 血量和攻击力会增加，如果战胜 🐙 ，则人物的攻击和血量也会增加
- 主人公设置：主人公的属性为血量值和攻击力。
- 敌人设置：每个敌人拥有固定的血量值和攻击力，在生成所属地图的同时生成。

### 7、Game Operation 🎮

- You can click "Q" in game to check some basic game operation rules

- Move: "W","A","S","D" (Represents respectively up,left,down,right)
- Attack: "  ", "  ", "  ", "  " (Represents respectively up,left,down,right)
- Help: "Q"
- In dialogbox, you can use "ENTER" to go next
- In shop, you can use "W","S" to choose what you want

## Project File Arrangement

- Attributes.py
  - It is aimed to determine whether the event `collide` occurs
    - Tips : classes maybe collided : obstacle / npc / boss / monster / portal
- BgmPlayer.py
  - It is aimed to play 3 different BGMs : CITY / WILD\_GRASS / BOSS\_GRASS.
    - Tips : The BGM played now determined with current SceneType of the player.
- GameManager.py
  - The most important part,which is aimed to manage the whole game,such as:
    - update all scenes / characters / events / BMGs
    - render all scenes / characters / events
    - flush or reset scenes, if your SceneType changes
    - and so on
- Guide.py
  - It is aimed to generate and update the guideboard at the left top corner.
  - such as: “ 按‘Q’打开操作指南 ”
- Main.py
  - The main manager of the game,which is aimed to update the display window / call GameManager to update and render the game
- Maps.py
  - It is aimed to generate:
    - Maps for different scenes
    - Obstacles for different sences
  - Moreover,we use Breadth-First Search to determine whether the random-generated obstacles are appropriate

- NPCs.py
  - It is aimed to generate four types of NPC characters:
    - DialogNPC, which can talk with player
    - ShopNPC, which can transact with player
    - Monster, which moves randomly and player will lose HP if collided with them
    - Boss, which always moves towards the player and can attack player with bullet
- Player.py
  - It is aimed to define all characteristics of the player and update it. Such as:
    - Parameters : HP / speed / directions and so on
    - Special images : Hold and turns the direction of guns according to the moving direction and so on
    - Abilities : Attack with gun / dialog with NPC and so on
    - and so on
- PopUpBox.py
  - It is aimed to generate dialogbox / shopbox and update them.
- Portal.py
  - It is aimed to generate Portals in different maps:
    - in CITY\_MAP : Transmit player to the corresponding WILD\_MAP
    - in WILD\_MAP : Transmit player to the BOSS\_MAP
    - in BOSS\_MAP : Transmit player to the CITY\_MAP
- Scene.py
  - It is aimed to generate all the things related to scenes of the game. Such as:
    - The updating of the camera
    - CityScene / WildScene / BossScene
    - GameOverScene
    - StartCG : "冤申"
    - StartMenu : "Press To Enter"
- Settings.py
  - It is aimed to define all the settings of the game, such as some basic attributes and some numbers.

- StatusBar.py
  - It is aimed to generate and update all the states of characters. Such as:
    - HP / Money / Attack / Defence of the player
    - The Blood-State-Bar of the boss

## Game Composition(A version of the reference teafrogsf 's slides) 🚩

### Characters 🚩

- A main character 🧑 ➡️ A knight with a gun 🗡️
- Two different friendly NPCs 🤖 ➡️ You can see in the main map
- A simple enemy 🐙 ➡️ Some monsters in wild map
- A special enemy 🐙 ➡️ Three bosses in boss map

### Game Machanics 🛠️

- Core mechanics ➡️ We use `EVENT` to determine which state the player is in and to finish generating the right scene.
- Collision system ➡️ When player, npcs and the monsters collide with some barriers, they will stay still or just change the directions.
- Resource system ➡️ We use the `random` module to generate the map,obstacles and monsters. And at the same time, we use '`BFS`' to ensure the player can reach the boss map .

### Gameplay 🗡️

- Main menu ➡️ When you start the game, the window will automatically display a tween animation 冤申 , after which you can see the game starter page.
- BGM ➡️ When you enter different maps, the bgmplayer will play different music. So, enjoy your fantastic tour in our game!

### Code 📖

- In each file, we have some brief introductions of the code, illustrating the `classes` and `funciton` ☀️
- We adopt a strategy of code encapsulation, which can help you understand our code more easily ☀️