Team RuYou's Game

🎉 💫 *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

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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

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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。

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> 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。

Poject introduction

- Game Brief Introduction
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Game Brief Introduction

1、Game Name 🎯

- 冤申

2、Game Type：

- 实时战斗冒险游戏

3、Background：

- 在黑暗的地狱之中，主人公发现自己被困在一片迷宫中。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，它们的力量似乎是主人公唯一逃脱地狱的钥匙。主人公知道，只有当他收集齐这三枚印记并带回最终迷宫的深处，才能打破被困的诅咒，离开这片阴森的地方。但地狱不是轻松的考验，而是一个充满危险和谜团的领域。随着主人公逐渐收集到草水火三种元素印记，他的力量也在不断增强。草印记赋予他自然的恢复能力，水印记让他能够掌握水的流动和净化之力，火印记则点燃了他的武力，使他能够驾驭熊熊的烈焰。然而，随着主人公的成长，地狱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，地狱中的每个角落都弥漫着危险。主人公必须谨慎行事，不断提升自己的实力，以抵御即将到来的更为恶劣的挑战。在这片深邃的地狱，主人公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，主人公才能解开这场神秘的诅咒，带着元素印记的力量迎接最终的考验，摆脱地狱的束缚，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 respectely up,left,down,right)
- Attack: " ⬆️ "," ⬇️ "," ⬅️ "," ➡️ " (Represents respectely 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 transaet 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 camara
    - 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 attirbutes 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 🌟