Game Program and Design Final Project Brief Introduction v0.0

Group member information

Name	Student ID
Zhe Zhang	1754060
Kaixin Chen	1753188
Wenyue Li	1750803
Jingmeng Zhang	1753498

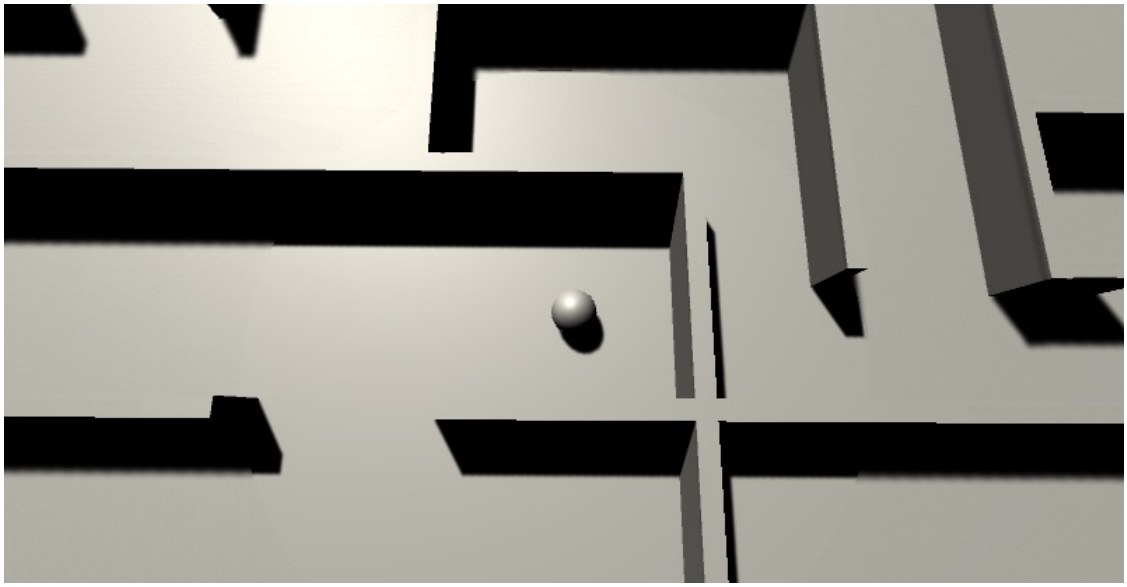
Game background summary

Darkness envelopes the world, only light can pierce the silence and guide the direction of life flowing. The game is calibrated as a 2.5D labyrinth adventure game. The player is placed in the maze of the wall, a lamp in his hand can bring light. The only door to escape is controlled by magic, only by completing the clue to solve the puzzle can the player regain his freedom. In this dark and cold labyrinth, there are hidden sly and terrible monsters. Be alert and listen! Smart people, always keep in mind: filling your heart with love and courage. Only in this way can you find the way to the homeland.

Brief description of Gameplay

1. The game is 2.5D(refer to "Arrow.io"), In the third-person perspective, the player can only see a map of a small area around him.(Note: This game doesn't provide the global mini map as a labyrinth adventure game.)
2. The game scene is a maze (refer to the movie "Maze Runner"). Buildings such as high walls are used as the layout of the maze. **The maze design considers the establishment of a maze library. The maze map in a scene is formed by combining the elements in the maze library**.

The schematic diagram is as follows.



3. The player carries a lamp, the weak light can only illuminate nearby places.

   The schematic diagram is as follows.

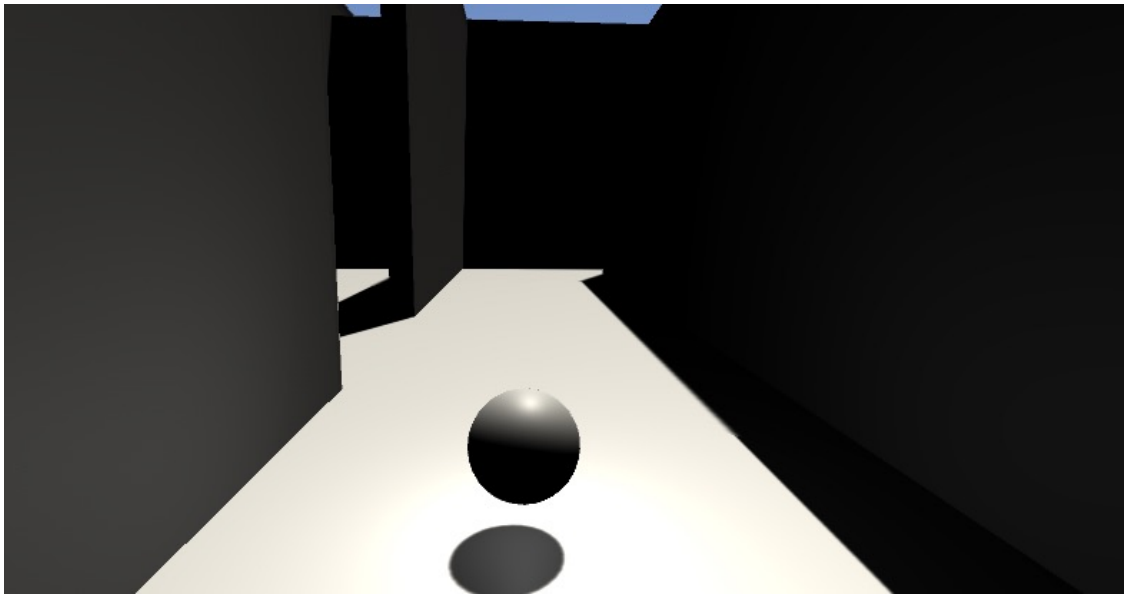
4. There is a only door to get out the maze. To get the key, you must collect the corresponding items and complete the corresponding tasks according to the clues.
5. There are multiple monsters in the maze. Each monster has its own territory. When the player enters the territory, the monster will chase the player. The player needs to avoid the monster with the help of the maze terrain and his own wisdom. (Note: Monsters can attack players, but players cannot attack monsters)
6. Due to the unstable signal in the maze, the player can only send a signal to the satellite after he collects a certain amount of (token) to observe the top view of his location and surrounding conditions. Other time the player needs to avoid the monster with logical analysis
7. There will be an element on the user interface to prompt the player about the general direction of the key items. At the same time, the UI and sound effects will be changed according to the position of the monster to help the player distinguish the monster in the first-person perspective.

8. After being attacked by monsters, players will have corresponding effects on their attributes(including HP, lamp range, moving speed, etc.). And at the same time, the user interface will also receive corresponding effects(for example, the screen has a strain effect, etc.). When HP turn to zero, the player failed.

Brief description of core modules

- **Camera（perspective)**
    - We provide two kind of perspectives，briefly noted as **first-person perspective** and **third-person perspective**.

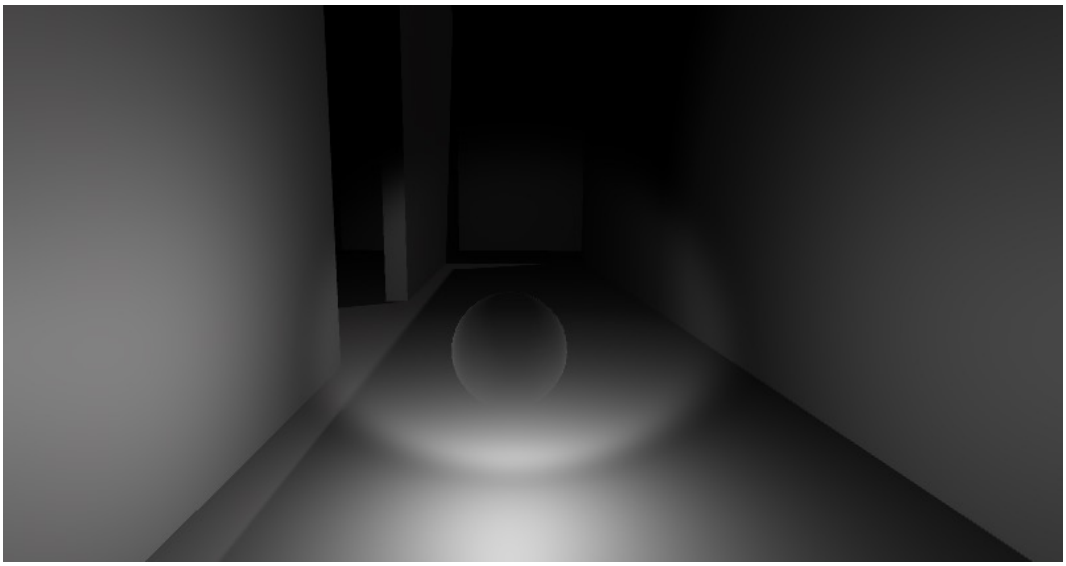
      The schematic diagram is as follows.



    - Figure 1 shows the first-person perspective. This is the default perspective of the game. In this perspective, players can only see information in a small local area. In this perspective, players need to collect tokens to contact with the satellite
    - Figure 2 demonstrates the third-person perspective. When the player get a certain number of tokens, he can contact with the satellite to observe the surrounding maze environment and situation. After the satellite communication time is over, the perspective returns to the first-person perspective.
- **Lighting system**

- In the initial situation, a lamp in the player's hand can illuminate the surrounding situation. In the third perspective, **the circle with the player as the center and a radius of 1.5 maze path width is set to low brightness**. All the other places are dark.

  The schematic diagram is as follows.

- Players **Solve puzzles by getting clues (Player searches for puzzle pieces in the maze. If the previous group (for example, a group of 3) pieces is not collected, the subsequent group pieces can not be found on the map. After the puzzle pieces are completely collected, The player will get the key of the maze, find the door and escape)**
- The player **collects candlelights** , at the third perspective can the player see the position of the candlelights, the player can light up the fixed position lights on the map after collecting.
- Monsters are light-trendy, which means they may chase the player's light. See the AI section for details.

- **AI (Monster)**
  - The monster in the scene is based on simple AI **(Pac-Man AI)**
  - Each monster has its own territory. After the player enters its own territory, the AI will chase him or her according to the player's location information (Noted that When within the territory, the player's position coordinates are public information for the AI, but some mechanisms should be adopted, such as monsters should get the player's location information once every few seconds)

- Each kind of AI causes different substitution effects on players through specific algorithms，like some players' screens are defaced or players lose their blood when be catched by monsters.