



Project Name: Escape The Unknown House

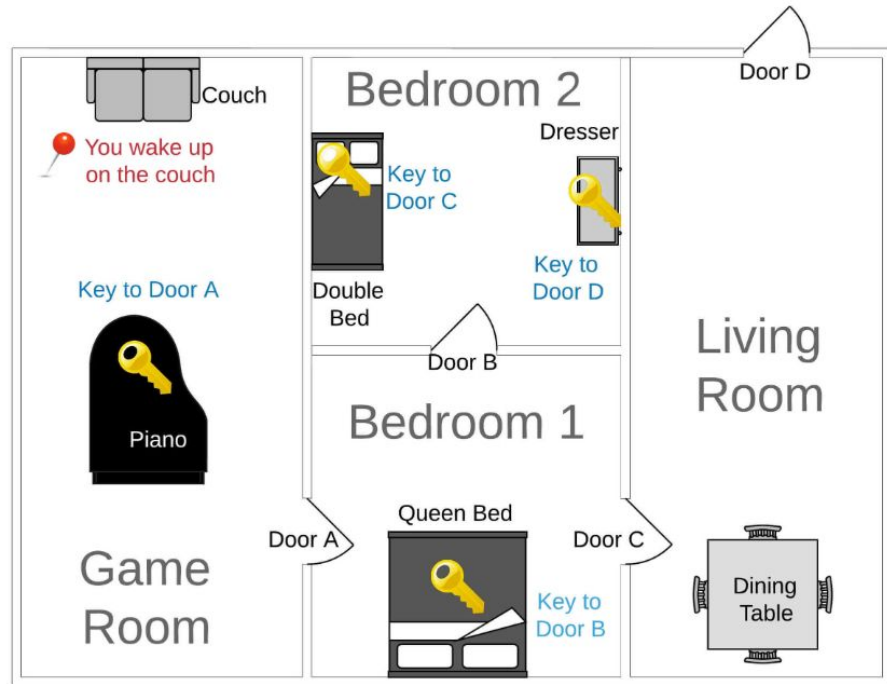
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ESCAPE ROOM



Project Overview

1. How is the game's structure organized?

*The game's structure is organized around **a series of interconnected rooms** within the unknown house.*

- Each room presents unique challenges and puzzles: the player must solve to progress through the game.
- The player starts in the **game room** ➡ **Bedroom 1** ➡ **Bedroom 2** ➡ **go back to bedroom 1** ➡ **the Living Room**
reaching the Outside to win the game.

2. Which functions do you have and how are they imported?

built-in/start the game/exploring/examining/finding the key/entering from one room to another/opening the door

Project Overview

Which **features** did you add to the game?

1. **Data Structure:**
Dictionaries

```
# GAME ROOM
# -----
couch = {
    "name": "couch",
    "type": "furniture",
```

2. **Flow Control:**
Conditional
While Loop

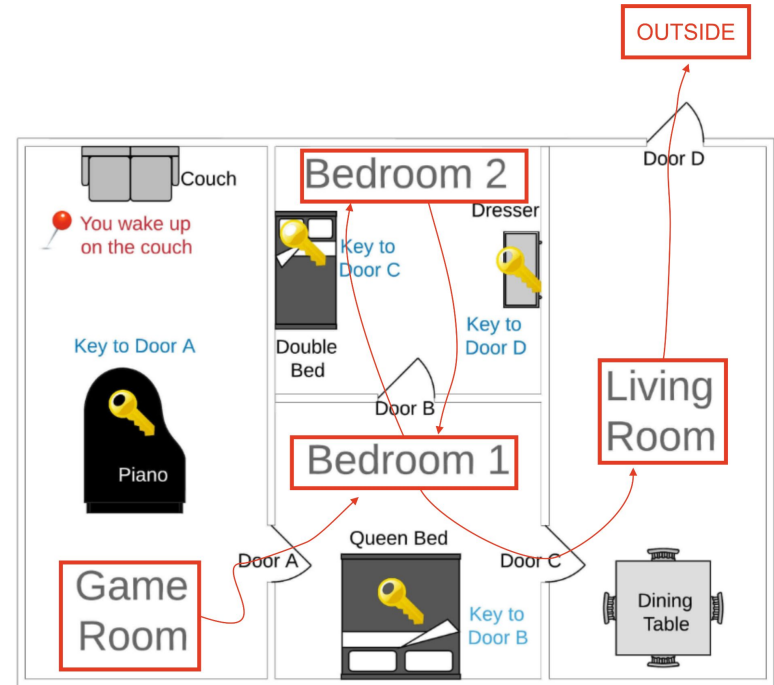
```
def game_room():
    if game_state['current_room']['name'] == 'bedroom 1':
        # define which items/rooms are related bedroom 1
        #game_state["current_room"] = bedroom1
        if i == 0:
            game_state["target_room"] = bedroom2
            i += 1
        else:
            game_state["target_room"] = living_room
```

3. **Functions:** Built-in/def

```
def explore_room(room):
    """
```

4. **Object Relations**

```
object_relations = {
    "game room": [couch, piano, door_a],
    "piano": [key_a],
    "outside": [door_a],
    "door a": [game_room, bedroom1]
```



```
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File Edit View Insert Cell Kernel Widgets Help
Python 3 (pykernel)

In [1]: 1 # define rooms and items
2 # -----
3 # GAME ROOM
4 # -----
5 couch = {
6     "name": "couch",
7     "type": "Furniture",
8 }
9
10 door_a = {
11     "name": "door a",
12     "type": "door",
13 }
14
15 key_a = {
16     "name": "key for door a",
17     "type": "key",
18     "target": door_a,
19 }
20
21 piano = {
22     "name": "piano",
23     "type": "Furniture",
24 }
25
26 game_room = {
27     "name": "game room",
28     "type": "room",
29 }
30
```

1. define
- ROOMS
- OBJECTS in each ROOM

```
game_state = {
    "current_room": game_room,
    "keys_collected": [],
    "target_room": bedroom1
}
i = 0

while game_state["target_room"] != outside:
    # for i in range(len(all_rooms)+1): # NUMBER OF ROOMS
    # for i in range (0,2):
    #     game_state["current_room"] = all_rooms[i]
    #     game_state["target_room"] = all_rooms[i+1]
    print ('CURRENT ROOM: ' + game_state['current_room']['name'])

    if game_state['current_room']['name'] == 'game room':
        # define which items/rooms are related in game room
        #game_state["current_room"] = game_room
        game_state["target_room"] = bedroom1
        object_relations = {
            "game room": [couch, piano, door_a],
            "piano": [key_a],
            "outside": [door_a],
            "door a": [game_room, bedroom1]
        }
        start_game()

    if game_state['current_room']['name'] == 'bedroom 1':
        # define which items/rooms are related bedroom 1
        #game_state["current_room"] = bedroom1
        if i == 0:
            game_state["target_room"] = bedroom2
            i += 1
        else:
            game_state["target_room"] = living_room
```

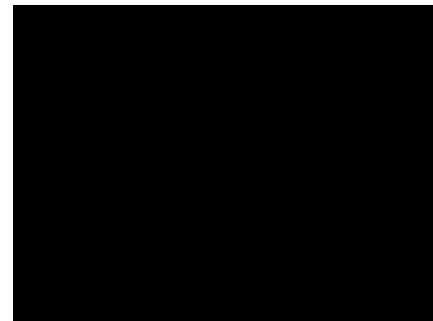
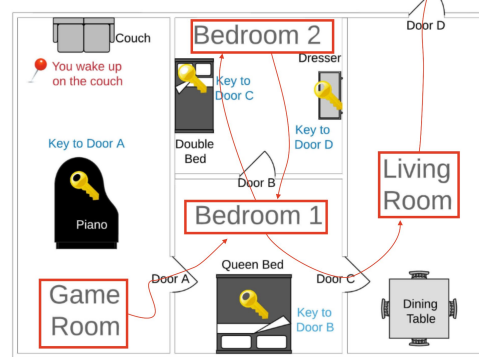
3. define initial conditions

4. define flow
While not outside (target)
flow control when you enter a room

```
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File Edit View Insert Cell Kernel Widgets Help
Python 3 (pykernel)

In [2]: 1 def linebreak():
2     """
3     Print a line break
4     """
5     print("\n\n")
6
7 def start_game():
8     """
9     Start the game
10    """
11    print("You wake up on a couch and find yourself in a strange house with no windows which you have never been to before")
12    play_room(game_state["current_room"])
13
14 def play_room(room):
15    """
16    Play a room. First check if the room being played is the target room.
17    If it is, the game will end with success. Otherwise, let player either
18    explore (list all items in this room) or examine an item found here.
19    """
20    game_state["current_room"] = room
21    if game_state["current_room"] == game_state["target_room"]:
22        print("Congrats! You escaped the room!")
23    else:
24        # Type 'explore' or 'examine?' to see items in the room
25        explore(game_state["current_room"])
26
27 def explore(room):
28    """
29    Explore a room. List all items in the room.
30    """
31    for item in room["items"]:
32        print(item["name"])
33
34 def examine(item):
35    """
36    Examine an item. Print details about the item.
37    """
38    print(item["name"])
39    if item["type"] == "key":
40        # Find the target room for this key
41        target_room = item["target"]
42        game_state["target_room"] = target_room
43        print("You found a key for " + target_room["name"])
44
45 def door_action(door):
46    """
47    Action for a door. Check if the key is in the player's inventory.
48    If yes, open the door and move to the target room.
49    """
50    key_name = door["key"]
51    if key_name in game_state["keys_collected"]:
52        game_state["current_room"] = door["target_room"]
53        print("You opened the door and moved to " + door["target_room"]["name"])
54    else:
55        print("You need a key to open this door.")
56
57 def outside():
58    """
59    Outside the house. The game ends here.
60    """
61    print("You escaped the house!")
62    game_state["current_room"] = outside
63    game_state["target_room"] = outside
64
65 def game():
66    """
67    The main game loop. It calls start_game() and then enters a loop where it calls play_room() until the game is over.
68    """
69    start_game()
70    while game_state["current_room"] != outside:
71        play_room(game_state["current_room"])
72
73 if __name__ == '__main__':
74     game()
75
```

2. define
- FUNCTIONS
- start the game
Narrative when starting
- play the room
explore (list of objects)
examine object
finding keys
opening doors
- enter a new room



Technical Challenges and Mistakes

1. What was the most important technical challenge you faced?

- **Technical Bugs:** move back to any room
- Simplify the code
- Choose the right tools to tackle the situation
- Understanding the flow/inputs/outputs/multiple variables and functions/bugs/errors

2. How did you overcome that challenge?

- Lab practice
- Group Work
- Google Research/ Coding Community/AI Tools
- More practice by using new functions: list comprehension; map; etc



Thank you!

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