
DESIGN AND REFLECTION

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DESIGN

Classes:

Room: Base Class

Functions:

- Constructor to initialize data
- Set and get functions for each bit of data
- Pure virtual special function
- Pure virtual run function

Data:

- String name: this will hold a string for the name of the grocery item
- Bool kitty: whether the cat is in the room or not
- Bool player: whether the player is in the room or not

Regular: Derived from Room

Functions:

- Run: in charge of running a simulation for each room
- Special: will spit out a random gameplay fact
- Scenario1: simulation for the dining room
- Scenario2: simulation for the living room

Data:

Haunted: Derived from Room

Functions:

- Run: in charge of running a simulation for each room
- Special: will run a dice game simulation
- Scenario1: simulation for the kitchen
- Scenario2: simulation for the bedroom

- Scenario3: simulation for the bathroom

Data:

Temporary: Derived from Room

Functions:

- Run: in charge of running a simulation for a disappearing room
- Special: has a 5% chance of losing all inventory

Data:

Pack

Functions:

- getObj: puts new object in inventory
- dropObj: takes object out of inventory
- fullPack: checks if the inventory is full
- printInventory: prints what is in the pack
- checkCanWin: checks if player has the correct objects to win
- getCanWin: returns true if player can potentially win

Data:

- int representing each possible object to pick up
- int for the limit of space in inventory
- int for the amount of objects currently in inventory
- array of boolians to flag whether objects are in the inventory
- bool canWin, is true if player has correct objects

Main:

- should establish the map and the pointers between each node
- the kitty will have a 25% chance of moving
- The player has 20 moves to win
- Player must have the milk, tuna, catnip, and yarn to win
- Player must be in the same room as the cat to win
- Pack should ask to drop an item if the inventory is full
- There should be a menu with options of what to do
 - Direction to go next
 - Call the kitty
 - Hint on how to win the game
 - Open inventory

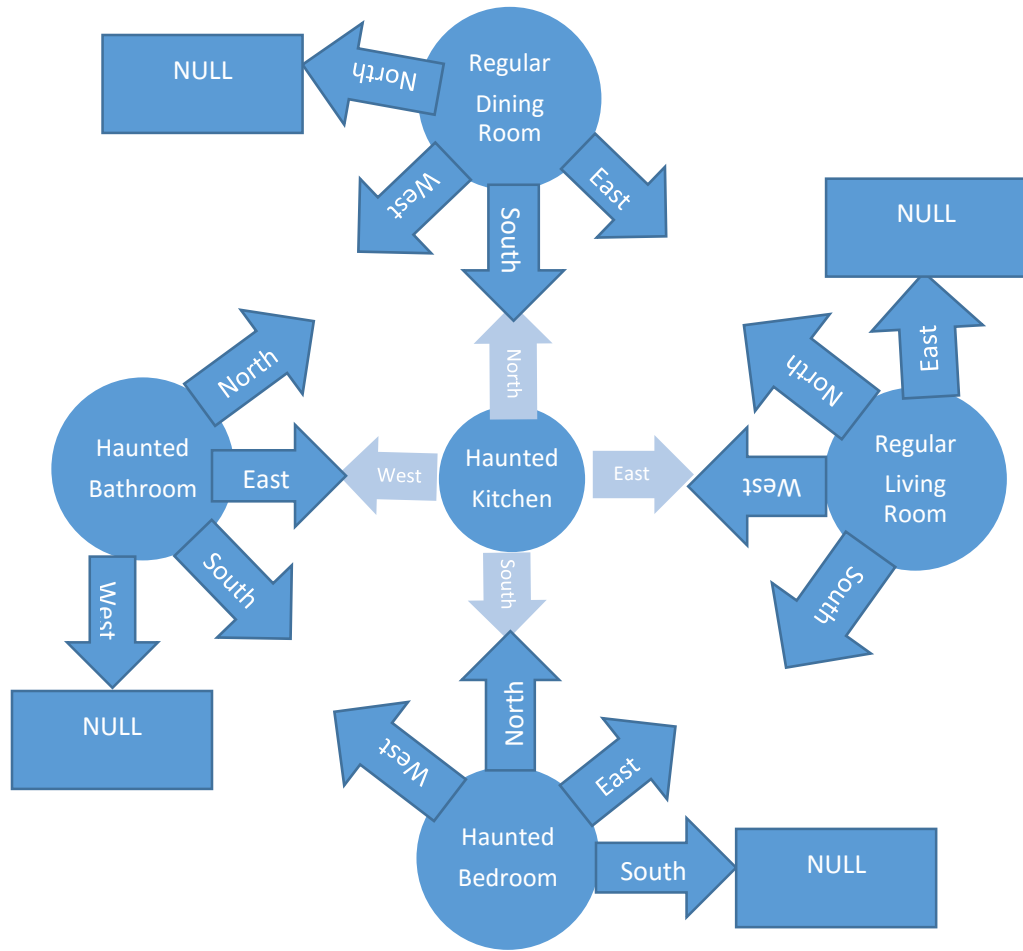


Diagram of the haunted house set up.

REFLECTIONS

Testing:

Dining Room

Test Case	Input Values	Expected Outcome	Actual Outcome	Comments
Fishing Display	1, 2, 3, 4	should pick up fishing pole, tuna, give a hint, and exit display	picks up fishing pole, tuna, gets a hint, and exits display	works as expected
leave room	none	menu should pop up	menu popped up	works as expected

Living Room

Test Case	Input Values	Expected Outcome	Actual Outcome	Comments
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Sit on sofa	1, 2, 3	should pick up yarn, get hint, and get off sofa	picks up the yarn, gets hints, and gets off the sofa	works as expected
inspect the TV	none	leave room	leave room	works as expected

Bedroom and Bathroom and Kitchen

Test Case	Input Values	Expected Outcome	Actual Outcome	Comments
play game with ghost	1	roll higher than ghost and receive pillow	roll higher than ghost and receive pillow	works as expected
play game with ghost	2	roll the same as the ghost and lose the game	rolls the same and loses the game	works as expected
play game with the ghost	3	roll lower and leave	rolls lowers and leaves	works as expected

Menus

Test Case	Input Values	Expected Outcome	Actual Outcome	Comments
picking a direction	3, 4, 5, 6	moves rooms and continues game	moves rooms and continues game	works as expected
call cat	2	prints calling the cat	prints calling the cat	works as expected
inventory	1	prints the pack, and has the option of removing items	prints the pack, can take out items	works as expected
print how to win	7	prints how to win	prints how to win	works as expect

Temporary Room

Test Case	Input Values	Expected Outcome	Actual Outcome	Comments
pick up tiara	1	prints menu, calls function addItem()	prints menu, calls function addItem()	works as expected
pick up catnip	2	prints menu, calls function removeItem()	prints menu, calls function removeItem()	works as expected
pick up nothing	3	prints menu, calls function printList()	prints menu, calls function printList()	works as expected
lose inventory	none	everything is lost except what was picked up in the room	everything is out of the inventory except what was picked up in the room	works as expect

Ending the game

Test Case	Input Values	Expected Outcome	Actual Outcome	Comments
killed by ghost	none	loses when killed by ghost	loses when killed by ghost	works as expected

run out of time	none	loses when counter reaches 20	loses when counter reaches 20	works as expected
wins when conditons are met	none	wins when player has objects and cat	wins when player has objects and cat	works as expected

General Other Thoughts:

Most things work as expected. There actually weren't too many errors to figure out. Most errors just ended up being syntax errors. There were a few logic errors with the sequence of when things were called but those were easy to figure out where things were going wrong by using cout statement.

The only thing is that there is not much error handling, I intended to work on this more, but I prioritized getting the game working.

To Use the Makefile:

Type **make -f make_grocery.txt** into the command line