

Design description:

In the final project, it will be able to design and implement a one-player, text-based game where the player can move through spaces to get items and accomplish goals.

It is a collecting item game, when the player collect all the item, it will win.

The max step is 11, step will reduce by each move.

If don't collect all the item, and there is no step left. It will lose the game.

Every room has different items, and some of the room is very dangerous

Project Structure:

It has one base class called Space, and five inherit class called Kitchen, Bedroom, Living Room, Balcony, and Dog Room.

Class hierarchy diagram

Base class:

Space

Inherit class:

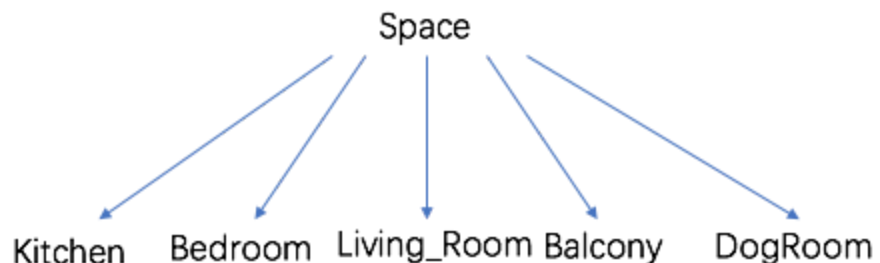
Kitchen

Bedroom

Living_Room

Balcony

DogRoom



My design

- The max step is 11, step will reduce by each move.
- Player need to collect money(\$), clothes(&), knife(#)
- If there is a dog in the room, player will Pass Out in Shock, and wait for 5 step.
- First step will be in the living room.
- Every room have different item.

- Kitchen has knife(#)
- Bedroom has money(\$) and clothes(&)
- Nothing in the living room.
- Balcony has money(\$)
- Dog room is dangerous. There is a dog inside.

Test table:

Test Case	Input Values	Driver Functions	Expected Outcomes	Observed Outcomes
Input float number	1.5	bool validation_int(string s) ;	Show enter wrong number, please enter again	Show enter wrong number, please enter again
Input character	A or bb or #	bool validation_int(string s) ;	Show enter wrong number, please enter again	Show enter wrong number, please enter again
Input negative number	-12	bool validation_int(string s) ;	Show enter wrong number, please enter again	Show enter wrong number, please enter again
Go to Kitchen	When get kitchen	choose_item(vector<char>* c)	Show You get the knife	Show You get the knife
Go to bedroom	When get bedroom	choose_item(vector<char>* c)	Choose from money and clothes	Choose from money and clothes
Go to Balcony	When get Balcony	choose_item(vector<char>* c)	Show You get the money	Show You get the money
Go to Dog room	When get Dog room	choose_item(vector<char>* c)	Show that you meet the dog, wait for 5 step	Show that you meet the dog, wait for 5 step

Reflection:

When I run the game, it has segmentation fault, and I use a lot of time to debug. It is important to design the logic for the project, and to make containers for the items.

Designing the game is very interesting. I use 13 spaces of at least 5 different types. It is my first time to use 4 pointer, left, right, top, and bottom.

It is a very interesting project.