

# Homework 1 - Dungeon

## Introduction

In this homework, you will make a text-based RPG with the player exploring a dungeon and fight against unknown monsters.

You will implement it using C++ and put your OOP knowledge into practice. Header files and tutorial videos are provided so try your best to accomplish it.

## Tutorial

The playlist **will keep updating**

<https://www.youtube.com/playlist?list=PLolSxpCB-u1AkcGChEgFomFRhuLrFsOCu>

## Requirements

### Basic Functions (85%)

#### 1. Movement (15%)

Allowing user to move from one room to the other.

e.g. Moving from room 1 to room 2, and then go back to room 1.

#### 2. Showing status (10%)

Dump out the player's information.

#### 3. Pick up items (10%)

Allowing user to pick up items and equip them onto the player.

#### 4. Fight (20%)

Player can attack the monster, and the monster will either die or fight back if it is still alive. Moreover, the fight will loop until either one of them dies or the player retreats.

- Attack (kill the monster or the monster will fight back)
- Retreat (send player back to the previous room).

### 5. NPC (10%)

- Showing the script of NPC (what to say from the NPC).
- Trade with the player (player can get item(s) from the NPC).

### 6. Game logic (win / lose) (10%)

Handle when the player win or lose.

### 7. Record System (10%)

Allowing user to **SAVE** the current game status and **LOAD** it back.

- Player: health, attack, item(s), etc
- Rooms: defeated monsters, looted room, etc

### 8. Inheritance / Virtual (-20% if not fulfilled)

- You must implement the assignment with inheritance and virtual functions, or there will be a 20% penalty.
- Please describe the structure of your inheritance and virtual functions clearly in the paper report.

### Optional Enhancement (15%)

- You are allow to add additional functions, features or even visualize the gameplay to enhanced the game experience (as long as the system works).
- Please describe the additional features clearly in your demo video and especially in your paper report.
- Example
  - Skills
  - Ultimate Abilities
  - MP system
  - Type conter (i.e. water counters fire, fire counters grass, grass counters water)
  - Dps, tank, etc

## Note

1. Our template is meant to speed up your development not to constraint your creativity. You can modify it or add extra functions whenever you want (as long as it still fulfill all the requirements).  
e.g. You might change the return type of a function.
2. In both demo video and paper report, all types of rooms should exist in the map in order to demonstrate how you fit all the requirements.  
i.e. Rooms of 1. monster, 2. npc, 3. chest, 4. exit (boss).

## Grading

1. You can get the basic score (85%) after finishing all the basic requirements.
2. You might get a higher score (up to 100%) if you successfully enhance your dungeon game with other functions or abilities.
3. Due to the epidemic, there will be no demo section but a demo video and a detailed paper report instead.
4. Optionally enhanced functions or features should also be described clearly so we can easily get your ideas and know your efforts.
5. About video:
  - The video should be no more than 120 seconds.
  - The video should be clear and demonstrate all you working functions.
  - Editing is allowed (but faking your results are not allowed).
6. About report:
  - The report should be clear and organized.
  - The report should describe how you fulfill the requirements.
  - The report should contain the following:
    - Implementation detailed
    - Results
    - Discussion
    - Conclusion

## Submission

1. A zip file named <HW1\_studentID.zip>
  - A folder of all your codes and resources named <Dungeon\_studentID>
  - A paper report named <report\_studentID.pdf>
  - A demo video named <demo\_studentID.mp4>
2. Uploaded onto new E3 platform before 05/15 (五) 11:55 pm
3. Late penalty will be 10% per day.