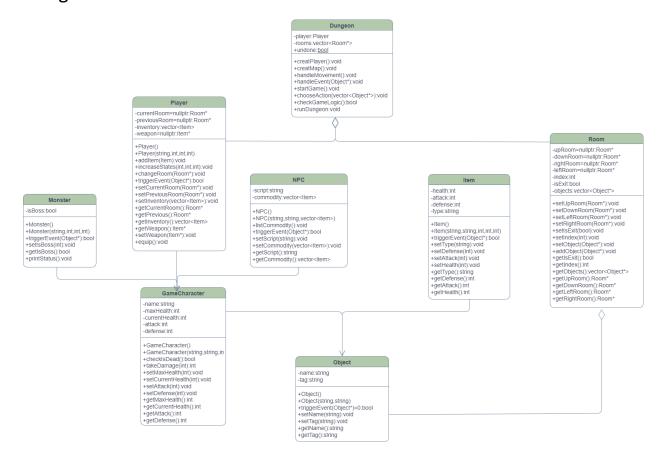
Dungeon

遊戲簡介:

此遊戲是一款以火影忍者為背景構思的 text-based RPG 遊戲。主角進入遊戲以後會成為一名忍者,在木葉忍者村的地下大牢中冒險、練習忍術和暴走的尾獸戰鬥。透過和房間中的忍者聊天獲取武器(道具或是忍術卷軸),打敗最終魔王九尾妖狐一九喇嘛後完成任務,逃出地牢成為一名合格的忍者。

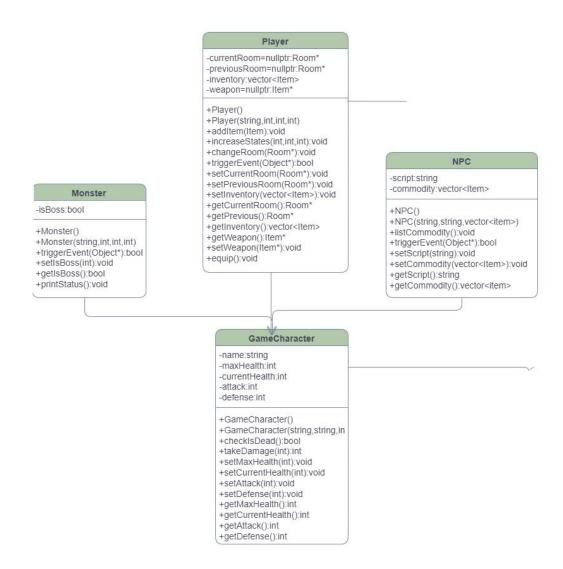
■ Implementation detailed and UML Design

Dungeon's UML:



遊戲角色:

遊戲角色的 UML:



1. Player(玩家本身):

Player 可以進行的動作包括:

1. 移動(Move):

使用 void Player::changeroom(Room*)執行

2. 展示狀態(show status):

使用 bool Player::triggerEvent(Object*)執行

3. 裝備武器(equip):

使用 void Player::equip()以及 void Player::setWeapon(Item*)執行

- 4. NPC 聊天(talk to NPC)
- 5. 撿取道具(pick up Item): 使用 void Player::addItem(Item)執行
- 6. 戰鬥(attack)
- 7. 撤退(retreat)

Player

- -currentRoom=nullptr:Room*
- -previousRoom=nullptr:Room*
- -inventory:vector<Item> -weapon=nullptr:Item*
- +Player()
- +Player(string,int,int,int)
- +addItem(Item):void
- +increaseStates(int,int,int):void
- +changeRoom(Room*):void
- +triggerEvent(Object*):bool
- +setCurrentRoom(Room*):void
- +setPreviousRoom(Room*):void
- +setInventory(vector<Item>):void
- +getCurrentRoom():Room*
- +getPrevious():Room*
- +getInventory():vector<Item>
- +getWeapon():Item*
- +setWeapon(Item*):void
- +equip():void

2. NPC:

共有五位 NPC:Kakashi(卡卡西)、Sakura(小櫻)、Gai(阿凱)、Jiraiya(自來也)、Sasuke(佐助)

NPC 可進行的動作包括:

1. 聊天:

使用 void NPC::setScript(string)執行

2. 列出道具:

使用 void NPC::setCommodity(vecto<Item>)執行

3. 給道具:

使用 bool NPC::triggerEvent(Object*)執行

NPC

- -script:string
- -commodity:vector<Item>
- +NPC()
- +NPC(string,string,vector<item>)
- +listCommodity():void
- +triggerEvent(Object*):bool
- +setScript(string):void
- +setCommodity(vector<Item>):void
- +getScript():string
- +getCommodity():vector<item>

3. Monster:

共有四隻 Monster: matatabi(二尾又旅)、shukaku(一尾守鶴)、kokuo(六尾穆王)、kurama(九尾九喇嘛)

1. 攻擊、顯示狀態:

使用 bool triggerEvent(Object*)執行

Monster

- -isBoss:bool
- +Monster()
- +Monster(string,int,int,int)
- +triggerEvent(Object*):bool
- +setIsBoss(int):void
- +getIsBoss():bool
- +printStatus():void

Room:

共有九間房間,五間 NPC_Room(包括一間 starting room)、四間 Monster Room(包括一間 boss room)

1. Initroom

NPC 為 kakashi 和他聊天可以得到" 千鳥"技能

2. Matabiroom

Monster 是 matatabi ,可和他戰鬥 , 其迴圈會直至其中一方生命值歸 零。

3. Sakuraroom

NPC 為 sakura,和其對話可得到武器,房間內也有道具可供撿拾。

4. Gairoom

NPC 為 Gai 和其對話可得到武器, 房間內也有道具可供撿拾。

5. Shukakuroom

Monster 是 shukaku ,可和他戰鬥 , 其迴圈會直至其中一方生命值歸 零。

6. jirayaRoom

NPC 為 kakashi 和他聊天可以得到"螺旋丸"技能

7. kokuoRoom

Monster 是 kokuo,可和他戰鬥,其迴圈會直至其中一方生命值歸零。

8. sasukeroomsuke

NPC 為 sa 和其對話可得到武器,房間內也有道具可供撿拾。

9. kuramaroom

Monster 是 kurama,可和他戰鬥,其迴圈會直至其中一方生命值歸零。 弱勢 monster 被打敗後會跳出選擇走出迷宮或是繼續在迷宮冒險。

Room

- -upRoom=nullptr:Room* -downRoom=nullptr:Room*
- -rightRoom=nullptr:Room*
- -leftRoom=nullptr:Room*
- -index:int
- -isExit:bool
- -objects:vector<Object*>
- +setUpRoom(Room*):void
- +setDownRoom(Room*):void
- +setLeftRoom(Room*):void +setRightRoom(Room*):void
- +setIsExit(bool):void
- +setIndex(int):void
- +setObject(Object*):void
- +addObject(Object*):void
- +getIsExit():bool
- +getIndex():int
- +getObjects():vector<Object*>
- +getUpRoom():Room*
- +getDownRoom():Room*
- +getLeftRoom():Room*
- +getRightRoom():Room*



Item:

1.ltem 為武器(weapon type),可以透過和 NPC 聊天得到或是在房間內撿取這些道具,並且會自動收進背包內。

Dungeon:

結合上述的內容再此將全部做統合。

内容包括:

- 1.創造角色:
- 2.創造地圖:
- 3.角色的操作:
- 4.檢查玩家是否通關

Item

- -health:int
- -attack:int
- -defense:int
- -type:string
- +Item()
- +Item(string,string,int,int,int)
- +triggerEvent(Object*):bool
- +setType(string):void
- +setDefense(int):void
- +setAttack(int):void
- +setHealth(int):void
- +getType():string +getDefense():int
- +getAttack():int
- +getHealth():int

Dungeon

- -player:Player
- -rooms:vector<Room*>
- +undone:bool
- +creatPlayer():void
- +creatMap():void
- +handleMovement():void
- +handleEvent(Object*):void
- +startGame():void
- +chooseAction(vector<Object*>):void
- +checkGameLogic():bool
- +runDungeon:void

Results

1.遊戲初始書面

2.talk to NPC \ get Item

```
----- R O O M -----
0: NPC Kakashi
(M)ove
(S)how Status
(E)quipment
(Q)uit
Enter the charcter you want to interact: 0
Hi ! I'm Hatake Kakashi .
Welcome to enter Konohagakure's dungeon to improve your Jutsu.
To leave this dungeon you have to Fuinn the Kurama.
Here is your backpack.
I have this items .Do you want it?
 -----ITEM--
0: weapon ChidoriHP: 0,ATK: 60,DEF: 0
Enter the index of want item or Enter -1 to quit : 0
You got Chidori
I have this items .Do you want it?
-----ITEM-----
Enter the index of want item or Enter -1 to quit : -1
```

3.撿取在房間的道具

4.裝備武器

```
Enter the charcter you want to interact: e
Equipment:
> Weapon
           : (empty)
(W)eapon
(E)xit
Do you want to equip? w
> Weapon
          : (empty)
Invetory:
> 0: Chidori ATK: 60 DEF: 0
> 1: Big_Ramen ATK: 0 DEF: 20
Which equipment does you want to put on (Enter -1 to leave) > 0
Equipment:
            : Chidori ATK: 60 DEF: 0
> Weapon
(W)eapon
(E)xit
Do you want to equip? e
```

5.fighting system

```
Enter the charcter you want to interact: m
(U)p Room
(L)eft Room
Which room do you want to go? u
 ----S T A T U S----
Naruto
HP: 100/100
ATK : 100
DEF: 60
Item: Big_Ramen,
Equipment:
> weapon : Chidori
Player Naruto, you encounter a monster !
Monster : Matatabi
HP: 20
ATK : 20
DEF: 30
Invalid input.
(R)etreat
(A)ttack
(S)tatus
which do you want to do ? a
Player Naruto deal 76 damages to Monster Matatabi
Monster Matatabi has been killed.
```

6.retreat(go back to previous room)

```
Player Naruto, you encounter a monster !
Monster : Shukaku
HP : 50
ATK : 50
DEF : 40
Invalid input.
(R)etreat
(A)ttack
(S)tatus
which do you want to do ? r
----- R O O M -----
0: NPC Gai
1: weapon Shuriken
(M)ove
(S)how Status
(E)quipment
(0)uit
Enter the charcter you want to interact:
```

7.fight to boss(持續攻擊)

```
Player Naruto, you encounter a monster !
Monster : Kurama
HP : 100
ATK : 80
DEF : 70
Invalid input.
(R)etreat
(A)ttack
(S)tatus
which do you want to do ? a
Player Naruto deal 75 damages to Monster Kurama
Monster Kuramadeal 45 damages to player Naruto
(R)etreat
(A)ttack
(S)tatus
which do you want to do ? a
Player Naruto deal 75 damages to Monster Kurama
Monster Kurama has been killed.
```

8.finish the game

```
(M)ove
(S)how Status
(E)quipment
(Q)uit
Enter the charcter you want to interact: m
(D)own Room
(E)xit
Which room do you want to go? e
Congratulations! Ninja Naruto, you have finished the justu lesson.
Go other adventures and to be a Hokage .Fire style Fire Ball justu !!!
```

■ Conclusion

藉由這次的 dungeon project,讓我可以將老師上課所教 OOP 的概念 結合 C++的程式應用,自主完成一個遊戲的設計和開發,雖然這個 Project 是個相當大的工程,但是完成之後讓我有很大的成就感,也 體會到了 OOP 在程式設計上的核心思想。