**Object Oriented Analysis with UML**

**1 Use case**

GAME: Cave Run

Objective : The objective of the game is to traverse across several rooms to the exit while escaping from a cave that contains a malicious monster will attempt to impede the player’s progress, all while making sure that the number of health points doesn’t decrease to zero.

• The player’s health points may decrease depending on the kinds of rooms they enter.

• Trap rooms cause the player’s health points to decrease by some fixed amount and immediately end the player’s turn

• The player’s quest will end abruptly if the monster catches them by moving into the same room, or if their health points are fully depleted

• The player makes up to two moves on each turn while the monster moves just once.

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Key Objects:

* Player Character
* Monster Character
* Trap Rooms
* Poison Rooms
* Map

Example Gameplay

Player starts game at the bottom left corner

Player enters poisonous room

Reduce player health

The monster makes a single move during it’s turn

Player enters room with bonus health pickup and its health is increased.

The monster makes a single move

The player enters a trap room and it immediately end the player’s turn

Gameplay

|  |  |
| --- | --- |
| Description Details | Description Details |
| Goal | Traverse the cave to the exit |
| Preconditions | Player has enough health |
| Successful End Condition | Player gets to the exit |
| Failed End Condition | Player’s health reaches zero |
| Primary Actors | Player |
| Secondary Actors | System |
| Trigger | Player starts the game |

Main Flow

|  |  |
| --- | --- |
| Description | Details |
| Main Flow | 1. Player starts the game |
| 2. Player traverses the rooms towards the exit |
| 3. Player enters poisonous room |
| 4. Reduce player health |
| 5. player enters a trap room |
| 6. end the player’s turn |

Alternate Flow

|  |  |
| --- | --- |
| Description | Details |
| Main Flow | 1. Player starts the game |
| 2. Player traverses the rooms towards the exit |
| 3. Player enters room with health pickup |
| 4. Replenish player health |

**Use Case Diagram**

**Activity Diagram**