

# Project 1-Design

## Analysis:

### Use Case 1: Menu

1. New game
2. View rank
3. Quit

### Use Case 2: Encounter

- 0.25 chance: nothing happens, just keep going.
- 0.30 chance: encounter a Puzzle
- 0.10 chance: encounter a professor, lose extra time, and may slightly increase intelligence.
- 0.10 chance: encounter another student, lose extra time.
- 0.15 chance: attacked, lose both time and intelligence.
- 0.10 chance: grade papers, lose time, but gain money.
- .0 chance: gain huge raise, and a lot of money.

### Use case 3: Puzzle

- Correct: Get money or intelligence
- Incorrect: Lose money or intelligence

## Design:

1. Menu

Variable: int option.

Function: play(), displayhighscore(), quitgame()...

Other class depend: NewGame, Scoreview.

## 2.Encounter:

Variable: int time, int money, int intelligence

Function: professor(), student(), gradepaper(), attacked().

Other class depend: Puzzle

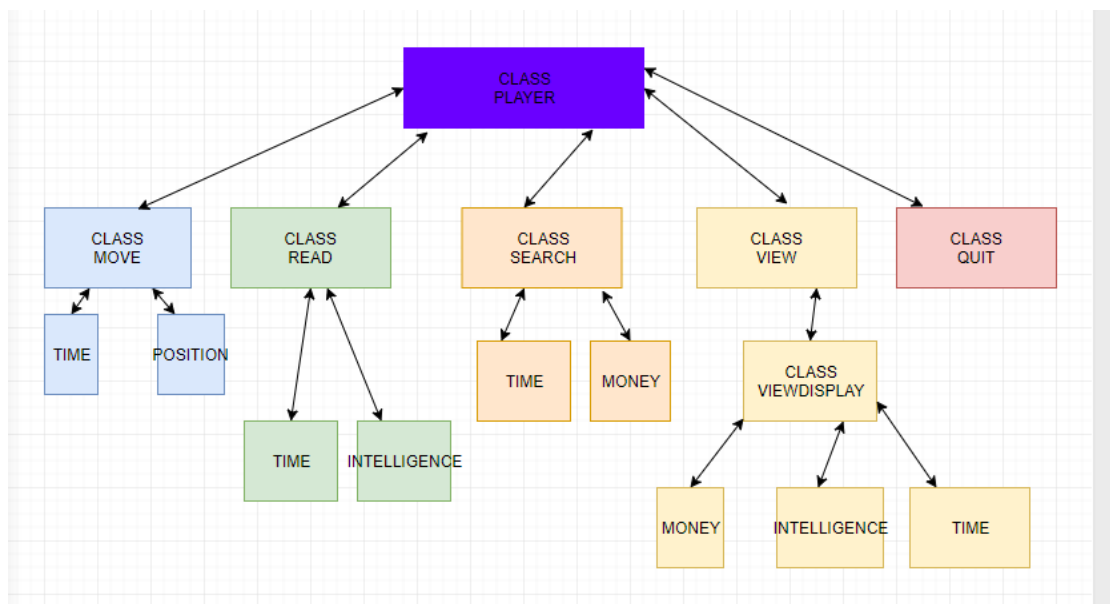
## 3.Puzzle

Variable: int money, int intelligence

Function: askquestion()

Other class depend: no

## UML diagram:



**Test: \_**

**Test Case 1: Main menu Test**

**Enter a invalid input:**

**If users enter a invalid input,ask the user enter again.**

**Test Case 2: Main menu Test**

**Enter a vaild input:**

**If users enter valid input,success**

**Test Case 3: Encounter Test**

**Encounter a professor. This loses a random extra amount of time,  
but may slightly increase intelligence less than 5.**

**Test Case 4: Puzzle Test**

**Ask a simple question, if answer correct, get money less than five.**

**Test Case 5: Puzzle Test**

**Ask a simple question, if answer incorrect, loose money less than five.**