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COMP 3700: Project 3

## Use Case Diagram Design:

### Actors:

1. Player
2. Game System

### Use Cases:

1. Start Game
2. Move Forward
3. Read Technical Papers
4. Search for Loose Change
5. View Character Status
6. Quit Game
7. Encounter Event
8. Solve Puzzle
9. Display Score & End Game

### Relationships:

- The Player interacts with all of the use cases.
- The Game System handles logic, encounters, puzzles, and tracking stats.
- Encounter Event can lead to a Solve Puzzle scenario.
- Display Score & End Game occurs when a player wins or losses.

### System Functionalities:

1. Generate a random starting attribute range.
2. Maintain a 20-step hall and track player position
3. Implement the probability-based encounter system:
  - 25% nothing happens
  - 30% puzzle encounter
  - 10% professor encounter
  - 10% graduate student encounter
  - 15% grunt work attack
  - 10% grading papers for money
  - 0% huge raise
4. Implement puzzles with correct/incorrect responses affecting attributes
5. Shows an ASCII-based game text for in game experience
6. The score calculation = Intelligence x Time x Money
7. End game conditions: Player reaches goal or any attribute reaches zero
8. There can be quitting at any time, but also shows a loss message
9. Structures a high scoring system