

Use Case 1: Start Game

Primary Actor: User

Goal: Start the game successfully

Preconditions: Game need be initialized

Trigger: User got the exit cell to win

Scenario:

1. Player click "Start" bottom
2. Game loaded
3. Generate Map (include wall, barriers, Main Character, Enemies, Cells)
4. Game board show the time and score
5. Control Main Character by keyboard
6. Players actively collect rewards and avoid enemies
7. Rewards are collected and disappear to increase the score
8. When all regular rewards have been collected, get to the "exit cell" to win

Exception:

1. Program crashed
2. Player clicks the exit bottom
3. Main Character was catch by enemies or score decrease to negative

Priority: Priority is high and is the basic function of the game engine

When available: Initial of the game

Frequency: Very frequent

Channel to Actor: via PC application

Secondary actor: Character

Channel to secondary actors: PC-based system

Use Case 2: Interact with Enemies

Primary Actor: Player

Goal: Lose the game or lost scores

Preconditions: Game is running

Trigger: User catch by the enemy or got punishment cell

Scenario:

1. Players collide with moving enemies
2. Program detected the collision
3. Player lose the game
4. The player collides with an enemy inside the cell
5. Program detected the collision
6. Player's lose some scores

Exception:

1. The collision does not be detected

Priority: high

When available: Initial of the game

Frequency: Very frequent

Channel to Actor: via PC application
Secondary actor: Character, Enemies

Use Case 3: Interact with Reward

Primary Actor: Player

Goal: win the game or gain scores

Preconditions: Game is running

Trigger: User get the reward cells

1. The player moves toward the reward
2. Players collect regular reward cells
3. After all regular bonus boxes have been collected, arrive at exit cell. Win the game
4. Player got bonus reward boxes
5. Score largely increased

Exception:

1. The cell doesn't have to be a reward, also might be punishment

Priority: high

When available: Initial of the game

Frequency: Very frequent

Channel to Actor: via PC application

Secondary actor: cells