

Use case: General Gameplay

Primary actor: Player

Goal: Move the character around the map

Preconditions: The move function has been implemented.

Trigger: Player presses “W, A, S, D” or arrow keys

Scenario:

1. There is no object around the main character
2. There is a collision between the enemy and the main character
3. There is a collision between the reward the main character
4. There is a collision between barrier in front of the main character

Exceptions:

1. No object: The main character moves to the direction corresponding with the keys the player pressed
2. Enemy: The main character loses 1 heart and teleports back to the starting cell
3. Reward: The score on the screen increases, and the reward disappears
4. Barrier: The main character cannot move in that direction, and stay still

Priority: Essential, must be implemented.

When available: After starting the game

Frequency of use: Every time player presses one of 4 buttons: W A S D

Channel to actor: Keyboard inputs

Open issues:

1. How can the system recognize the collision between objects?
2. What if the player holds the key instead of pressing and releasing it?

Use case: Entering the exit cell

Primary actor: Player

Goal: Exit a stage

Precondition: Cell class is implemented, and move function is implemented.

Trigger: The regular rewards are all collected, the player moves to the exit cell

Scenario:

1. Player is not currently on the last stage.
2. Player is on the last stage.

Exceptions:

1. Final stage: The ending scene appears with player's score and a Main menu button.
2. Not final stage: Player moves to the next stage with restored health and in a different map.

Priority: Essential

When available: Player collects all the regular rewards on that stage

Frequency of use: Once per stage

Channel to actor: Screen and keyboard

Open issues:

1. How can the system check if the player has collected all the reward or not?
2. How can we check the collision between the player and the exit cell?

Use Case: Click a button

Primary actor: Player

Goal: Go to the selected screen when clicking a button on screen

Precondition: Screens class is implemented with different screens and button

Trigger: Player clicks a button on the screen

Scenario:

1. Player clicks "Start" button
2. Player clicks "Exit" button
3. Player clicks "Main menu" button
4. Player clicks "Credit" button
5. Player clicks "Retry" button
6. Player clicks "Continue" button
7. Player clicks "Settings" button

Exceptions:

1. Start: The first stage appears on player's screen
2. Exit: The game screen closes
3. Main menu: Main menu screen appears on player's screen
4. Credit: Credit screen appears on player's screen
5. Play again: The first stage appears on player's screen
6. Continue: Player returns to the screen before they pause
7. Settings: Settings screen appears on player's screen

Priority: Essential

When available: Opening the game

Frequency of use: Whenever player click a button in game

Channel to actor: Mouse

Open issues:

1. How to take mouse clicks as input?