

Use case: start the game

- Primary actor: player
- Goal in context: to start playing this 2D game
- Precondition: the device that runs the game should be able to run java program, keyboard and mouse should be working
- Trigger: the player want to play the 2D game
- Scenario:
 1. Player opens the program
 2. The system displays the stage and the game starts
- Priority: moderate priority, it is a basic function
- When available: as long as the game is able to run on the given device
- Frequency of use: median

Use case: move main character

- Primary actor: player
- Goal in context: to move the main character on the game window
- Precondition: the player still “alive” (points is not lower than 0)
- Trigger: the player wants to collect the reward and avoid the enemies
- Scenario:
 1. The player presses the direction keys
 2. The main character moves to the next cell on the corresponding direction
- Exceptions
 1. There is a barrier on the corresponding direction – see use-case: move to a cell with entity
 2. Overall score is negative
 3. Main player is caught by the movable enemy
- Priority: high priority, this function allows programmer to debug code and is the way for asking user input
- When available: the thread is running and main charact is on a stage
- Frequency of use: high

Use case: move to a cell with entity

- Primary actor: main character
- Goal in context: to interact with the entity in game
- Precondition: the main character still “alive” (points I s not lower than 0)
- Trigger: the player wants to move to the cell with reward, or is accidentally caught by emeny
- Scenario:
 1. The main character moves to a barrier
 2. The system goes to next tick, but the main character stay at the same position
 3. The main character moves to a stationary enemy
 4. The system decreases the overall score
 5. The main character moves to a reward
 6. The system increases the overall score
 7. The main character moves to a movable enemy
 8. The system displays lose-interface and announces game over

- Priority: high priority, interaction is necessary part of the game
- When available: the thread is running and the main character is on a stage

Use case: win the game

- Primary actor: main character
- Goal in context: to win the game
- Precondition: main character has collected all the necessary reward and the game is not ended, yet
- Trigger: want to win the game
- Scenario:
 1. Main character has gone through all the stage and moved to the exit
 2. The system displays a winning message
- Priority: moderate priority, easy to implement after other function have implemented
- When available: there isn't a next stage
- Frequency of use: once per game

Use case: restart the game

- Primary actor: player
- Goal in context: to restart the game
- Precondition: player won or lost the game already
- Trigger: want to play the game again
- Scenario:
 1. System displays the end game interface
 2. Player presses "w" key
 3. System moves the "*" beside the word "restart"
 4. Player presses "enter" key
 5. System restart the game for player

Use case: exit the game

- Primary actor: player
- Goal in context: to stop the game
- Precondition: player won or lost the game already
- Trigger: want to exit the game
- Scenario:
 1. System displays the end game interface
 2. Player presses "s" key
 3. System moves the "*" beside the word "quit"
 4. Player press "enter" key
 5. Program exits
- Priority: moderate priority
- When available: when player win/lose
- Frequency of use: low