

## Use Cases

### Use Case: Start Game

- Primary actor: User who plays the game
- Goal in context: to click on the start button (play)
- Preconditions: system has been programmed to show the play button.
- Trigger: Pressing the play button
- Scenario:
  - Player opens the game
  - They click on the play button
  - A new window will appear and it will load the 2D map
- Exceptions: None
- Priority: Essential, must be implemented to start the game
- When available:
- Frequency of use: Every time the game starts

### Use Case: Moving the Main Character / Playing the Game

- Primary actor: Player (user)
- Goal in context: to move the character towards the rewards without being hit by the enemy or getting in the traps, using the arrows on the keyboard.
- Preconditions:
  - The 2D map is loaded and it has all the traps placed on it as well as the regular rewards.
  - The enemy starts to move towards the character in a defined dimension
  - The bonus rewards appear and disappear randomly on the map
- Trigger: Pressing the arrows on keyboard to start moving
- Scenario:
  - Scenario 1:
    - Player moves towards the bananas
    - When it reaches the banana cell the score goes up by a certain amount
    - The reward is removed from the map and the user moves towards the rest of the bananas.
  - Scenario 2:
    - Player falls in the trap cell
    - The character loses a certain amount of their score. If the score falls below zero by getting in a trap, the game is over.
    - If the score is still positive the game continues
  - Scenario 3:
    - The player collects a bonus reward (apple) and gets an additional life
    - If the user hits a moving enemy while having extra lives, they will have to begin moving the character from the start point; however, the collected score will be saved and the character has to collect the remaining bananas.
  - Scenario 4:
    - The player is hit by a moving enemy without having collected apples.

- The player loses right away and the game is over.
- Exceptions:
  - The user reaches the end without collecting all the bananas
  - using keys other than the arrows on the keyboard
- Priority: Essential, must be implemented to play the game
- Frequency of use: Every time the 2D board is loaded
- Open Issues:
  - What happened if the user exits the game in the middle of the play
  - Should it resume or start over

#### **Use Case: Game over (lose game)**

- Primary actor: Player
- Goal in context: Exit the game
- Preconditions: Player has lost the game (the score has become negative)
- Trigger: being hit by enemy or getting in the traps
- Scenario:
  - The main character fell in the traps without having enough points so the total score becomes negative.
  - The character has been hit by an enemy when it did not have extra lives
  - The game over window opens (showing the score and the time)
- Exceptions: None
- Priority: Essential (determines the end of a game)
- Frequency of use: frequent (when the user loses)
- Open Issues: no known issues yet

#### **Use Case: Win Game**

- Primary actor: User
- Goal in context: collecting all the rewards, without being hit by an enemy (with no extra life) or losing scores because of the traps
- Preconditions: Player has been playing
- Trigger: reaching the end point with all the rewards collected
- Scenario:
  - User collects all the bananas
  - User doesn't lose its lives
  - User's score does not fall below zero because of traps
  - The time and score of the player is stored to compare with the best record
- Exceptions: None
- Priority: Essential, must be implemented to win the game
- Frequency of use: Every time user plays

**Use Case: Pause the game**

- Primary actor: User who plays the game
- Goal in context: Freeze the screen and wait for the user to resume
- Preconditions: the user is playing the game
- Trigger: Pressing the pause button
- Scenario:
  - Player is in middle of playing
  - They click on the pause button
  - A window will open with the stored score and paused time waiting for the user to resume
  - Once play is pressed the game will resume
- Exceptions: None
- Priority: medium
- Frequency of use: sometimes
- Open Issues: none

**Use Case: Exit the Game**

- Primary actor: User who plays the game
- Goal in context: exit the game and show the start window
- Preconditions: user has pressed the exit icon while playing
- Trigger: Pressing the exit button
- Scenario:
  - User is playing
  - User has not lost
  - They press exit
  - Show the starting window
- Exceptions: None
- Priority: medium
- Frequency of use: sometimes
- Open Issues:
  - If user accidentally presses exit after winning before showing the results

