

Snake Game Use Case Specification

1.

Use Case Name: Snake eats apples
Brief Description: Player wishes to control the snake to eat apples in the main game board
Actors: Player
Basic Flow: <ol style="list-style-type: none">1. Player starts the game2. Player chooses the snake/game mode3. Player uses 'Up Arrow' to navigate snake up in the board to eat apples4. Player uses 'Down Arrow' to navigate snake down in the board to eat apples5. Player uses 'Left Arrow' to navigate snake left in the board to eat apples6. Player uses 'Right Arrow' to navigate snake right in the board to eat apples
Alternate Flow: <ol style="list-style-type: none">1. Player navigates snake to eat powerballs2. Player navigates snake to hit wall or scoreboard and game ends
Preconditions: Player has one life to play
Success Guarantee: Player navigates the snake to eat as many apples as possible
Minimal Guarantee: Player navigates the snake without hitting the walls

2.

Use Case Name: Snake eats powerup balls
Brief Description: Player wishes to control snake to eat powerup ball in the main game board
Actors: Player
Basic Flow: <ol style="list-style-type: none">1. Player starts the game2. Player chooses the snake/game mode3. Player uses 'Up Arrow' to navigate snake up in the board to eat powerup4. Player uses 'Down Arrow' to navigate snake down in the board to eat powerup5. Player uses 'Left Arrow' to navigate snake left in the board to eat powerup6. Player uses 'Right Arrow' to navigate snake right in the board to eat powerup
Alternate Flow: <ol style="list-style-type: none">1. Player navigates snake to eat apples2. Player navigates snake to hit wall or scoreboard and game ends
Preconditions: Player has one life to play
Success Guarantee: Player navigates the snake to eat as many apples as possible
Minimal Guarantee: Player navigates the snake without hitting the walls

3.

Use Case Name: Get scores
Brief Description: Player wishes to raise their scores by eating apples and powerup balls. Players get more points when the snake eats an apple in a faster speed. Total score=current score+ speed count*2(if you eat an apple) e.g. when speed1, current score=1, upon eating an apple: total score=3.
Actors: Player
Basic Flow: <ol style="list-style-type: none">1. Player navigates the snake to eat apples.2. If the snake eats an apple, the foodboard will gain one point.3. ScoreBoard will calculate the points by both food-count points and power-up balls' count points.
Alternate Flow: <ol style="list-style-type: none">1. Player navigates the snake to eat power-up balls.2. If the snake eats power-up balls, the power-up board will gain one point.3. ScoreBoard will calculate the points by both food-count points and power-up balls count points.
Preconditions: Player can eat at least one food or power-up board
Success Guarantee: Player navigates the snake to eat as many apples or power-up balls as possible.
Minimal Guarantee: player could eat at least 99 food or 99 power-up and get lower than 999 score.

4.

Use Case Name: Input player's score and name
Brief Description: Player wishes to input their score and name
Actors: Player
Basic Flow: <ol style="list-style-type: none">1. Player navigates the snake to hit wall or score board2. A new screen pops up to ask for player score and name3. Player inputs their name and score as instructions
Alternate Flow: <ol style="list-style-type: none">1. Player obtained a score not in top 10 threshold
Preconditions: Player gets a score in top 10 threshold
Success Guarantee: Player eats as many apples as possible
Minimal Guarantee: Player eats an apple

5.

Use Case Name: Get player rank display
Brief Description: Player wishes to have their game ranks when snake dies
Actors: Player
Basic Flow: <ol style="list-style-type: none">1. Player navigates the snake to hit wall or score board2. Player gets their rank
Alternate Flow: <ol style="list-style-type: none">1. Player doesn't get their rank
Preconditions: Player gets score
Success Guarantee: Player gets score in top 10
Minimal Guarantee: Player gets score