Use Cases

Group 9

1) Use Case: Initiate Game

Primary actor: User

Goal in context: Starting the game

Preconditions: System has been programmed with a start button for the user to enter the game.

Trigger: The user decides to start the game, that is, to click on the start button.

Scenario:
1. User: observes the start menu
2. User: clicks on the start button
3. User: a new round game starts

Exceptions:
1. User decides to exit the game; the program terminates.

Priority: Essential, must be implemented

When available: First implementation

Frequency of use: Every attempt in beginning a round of the game

Channel to actor: Via main menu

Secondary actors: Programmers

Channels to secondary actors:
Programmers: Computer hardware and software

Open issues:
1. What happens if the user presses the exit button?
2. How much time does the user have in order to select from the main menu?
3. Are keyboard shortcuts necessary?

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2) Use Case: Playing the Game

Primary actor: User playing as the fish

Goal in context: Complete the designed path

Preconditions: System has been programmed for the user to control the fish.

Trigger: The user collects all regular rewards on the map

Scenario:
1. User: observes the map
2. User: presses arrow keys to move to cells around barriers
3. User: avoid all enemies on the map
4. User: collects all regular rewards
5. User: collects bonus rewards, if possible
6. User: touch the exit cell

Exceptions:
1. The user misses to collect rewards on the path; every reward has to be collected to win.
2. The user presses ESC to exit the game.
3. The user is touched by a movable enemy; fails the game.
4. The user interacts with too many stationary enemies; fails the game.

Priority: Essential, must be implemented

When available: Second implementation

Frequency of use: During every round of the game.

Channel to actor: Via the game's graphical interface.

Secondary actors: Programmers

Channels to secondary actors:
Programmers: Computer hardware and software

Open issues:
1. What happens if the user decides to pause the game?
2. How many bonuses are in the game?
3. How long do the bonuses stay in the game before they disappear ?

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3) Use Case: Interaction with enemies

Primary actor: User playing the fish

Goal in context: Avoid interaction with enemies

Preconditions: System has been programmed for the user to control the fish.

Trigger: The user interacts with enemies.

Scenario:
1. User: observes moving enemies
2. User: interacts (touches) the moving enemy
3. User: the game is immediately over

4. User: observes stationary enemies
5. User: interacts (touches) the station enemy
6. User: loses points, if the score drops below 0, the game is over

Exceptions:
1. The stationary enemies are not evenly placed, making the game easier.
2. The moving enemies move closer to the main character and congregate.

2. The user misses to collect rewards on the path; every reward has to be collected to win.
5. The user presses ESC to exit the game.

Priority: Essential, must be implemented

When available: In the game interface.

Frequency of use: During every round of the game.

Channel to actor: Via the game's graphical interface.

Secondary actors: Programmers

Channels to secondary actors:
Programmers: Computer hardware and software

Open issues:
1. How should the enemies be placed at the start of the game?
2. What happens if the player collects too many points? Does the stationary enemy still have a meaningful effect on the player?

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4) Use Case: Winning the game

Primary actor: User playing the fish

Goal in context: User wins the game

Preconditions: System has been programmed for the user winning the round.

Trigger: The user wins the round.

Scenario:
1. User: avoids interactions with enemies
2. User: keeps the score above zero
3. User: collects all regular rewards
4. User: exits the map

Exceptions:
1. The user wins a round with the same score.

Priority: Essential, must be implemented

When available: Second implementation

Frequency of use: When user wins the game

Channel to actor: Via the game's graphical interface.

Secondary actors: Programmers

Channels to secondary actors:
Programmers: Computer hardware and software

Open issues:
1. Should the score be saved when the time and reward points are the same?

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5) Use Case: Losing the game

Primary actor: User playing the fish

Goal in context: User fails the game

Preconditions: System has been programmed for the user failing the round.

Trigger: The user fails the round.

Scenario:
1. User: fails the round due to interactions with enemies
2. User: observes the game over menu

Exceptions:
1. The user exits in the middle of the game.

Priority: Essential, must be implemented

When available: Second implementation

Frequency of use: When user fails the game

Channel to actor: Via the game's graphical interface.

Secondary actors: Programmers

Channels to secondary actors:
Programmers: Computer hardware and software

Open issues:
N/A