



## Section n: Requirements diagram

### n.1 Use case Diagrams

Por finalizar.

### n.1 Textual Description of the use cases

#### **Unique identifier:** CU1. Play level

##### **Context of use**

- We start the level.

##### **Preconditions and activation**

- The user is running the game and has already selected the boat.

##### **Guarantees of success or post-conditions**

- The level is loaded, and the player can play without issues.

##### **Main scenario**

- The player will be able to move around using the movement keys.
- Along the course, obstacles appear, and the player must avoid them.
- The player's aim is to reach the finish line in the shortest possible time and ultimately to be the first boat to do so.



### **Alternative scenarios**

- The game might crash whilst the player tries to access the game.

### **Unique identifier:** CU2. Choosing the boat

#### **Context of use**

- The user chooses the boat by using the control keys from a menu that is displayed on screen. This implies having the same boat on all 3 levels.

#### **Preconditions and activation**

- The game has been started.

#### **Guarantees of success or post-conditions**

- The player chooses the boat they want to play successfully.

#### **Main scenario**

- The system loads and displays the different boats on the screen.
- Each one has different characteristics, varying in style and stats.
- The player will choose a different boat depending on his preference.

### **Alternative scenarios**

- The user exits the game without completing the action of choosing a custom boat.



## **Unique identifier:** CU3. Start game

### **Context of use**

- When starting the program.

### **Preconditions and activation**

- Being on the start screen.

### **Guarantees of success or post-conditions**

- Once the boat is chosen, the level screen is loaded.

### **Main scenario**

- The player chooses to start a new game.
- The system loads the first screen where the user chooses the boat to play with.

### **Alternative scenarios**

- An error occurs, and the player cannot start the game or finally decides not to play and closes the program.

## **Unique identifier:**CU4. Control boat

### **Context of use**



- The user wants to control the boat.

### **Preconditions and activation**

- The boat has been selected (CU2) and the level has begun. Both previous cases have been successful.

### **Guarantees of success or post-conditions**

- The boat movement matches the keys stricken by the user.

### **Main scenario**

- The user presses the assigned key in the direction in which they wish to move.
- The system checks the validity of the movement and performs the movement if allowed.
- The system shows the change of position according to the user's decisions and the validity of them.
- The system continues checking if the control keys are pressed and the validity of them until the level comes to an end.

### **Alternative scenarios**

- The move indicated by the player is invalid. The system makes no move, displays the game screen, and waits for a new move.
- The system is not able to recognize the key pressed by the user, displaying no movement.



## **Unique identifier:** CU5. Use Powerups

### **Context of use**

- During the race, power-ups will be available for grabs if the player collides with them.
- Being in a race.

### **Guarantees of success or post-conditions**

- Player gets a Powerup to use during the race changing for a given time the way the boat behaves and the way the game is played.
- The system detects the selected Powerup and applies it accordingly.

### **Alternative scenarios**

- Error in the detection of collision with the powerup.
- The powerup is not applied correctly or applied at all.

## **Unique identifier:** CU6. Play mini game

### **Context of use**

- If the boat is destroyed, the player will have a chance to come back to life by playing the Simon says mini game.
- Starts after boat is destroyed.



### **Guarantees of success or post-conditions**

- If you pass the mini game, you will return to life.

### **Main scenario**

- The player's boat has been destroyed and they are given an opportunity to return to the game as they left it.

### **Alternative scenarios**

- The player loses the mini-game and the race ends.
- The system fails to start the mini-game and simply ends the race.

