Updated Requirements
Team CASEUS

(Team 7)
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Key:

.... = Requirements that were already implemented by the previous team during Assessment 1

.... = Requirements that we added and implemented during Assessment 2

.... = Requirements that were apart of Assessment 1 that were not properly implemented by the original team that we have finished implementing during Assessment 2

.... = Amended Requirements that were implemented by the original team but were not in the original Requirements deliverable

Requirements ID	Description	Risk Assumption (if relevant)	Priority
UR_FINAL_PLACE	If the user comes 1st, 2nd or 3rd in the final, they must be awarded with the corresponding medals	Risk of game being too difficult to finish in the top 3	Must
UR_FINAL_RACE	If the user's fastest leg is fast enough they will be entered into the final race.	Too difficult to place into final race	Must
UR_LOSS	The competition is lost either if the player does not make the final, places lower than 3rd place in the final or their boat energy level reaches 0	Assumes there are enough obstacles to reduce the boats health to 0 and the CPU boats give enough of a challenge	Must
UR_WIN	The competition is won if the player enters the top 3 in the final race	Risk the boats are too much of a challenge to win	Must
UR_PLAYABLE	The game should be playable and enjoyable to the target audience	May result in the game being considered boring	Must
UR_BOATS	The boat is controlled by the user using a mixture of keys, the user can control the direction of the boat and a boost button which they will use to avoid obstacles and to win	Boats will be too hard to control making the game too difficult for users to navigate the obstacles	Must
UR_MIN_BOATS	There should be at least 4 boats in each race	Too few a boats will result in the game being boring and too easy	Must
UR_CONTROLS	Controls should follow standard conventions or be explained at the beginning and easy to use	Making controls too complicated will result in users finding the game too difficult	Must
UR_TIME	Each race shouldn't be too long as to not let users lose interest	Races going on for too long could result in users quitting out of boredom	Should
UR_RACES	The user will play in a series of heats where they will race against both a timer and the computer controlled boats to see if they can enter the final	Heats could prove difficult to be able to make it into the final race	Should
UR_BOAT_DETAILS	All boats within the races shall have a varying set of stats that will determine how fast they are, how much damage they can take and how fast/long there sprints are.	Some boats could be unbalanced and unfair to race with	Should
UR_DIFFICULTY	The game should get progressively difficult for each race	If the difficulty incrementations are too large the game could become to difficult for the user to play	Must
UR_DIFFICULTY_	In the game menu the users can select the difficulty of their game	The user should have an idea of how difficult the game will be by using	Must

SELECTION		words like easy, normal, hard as to avoid them selecting overly difficult races	
UR_CONVENTIONS	The game should follow standard conventions, of games	The conventions could be followed where it doesn't make sense for the game to follow	Must
UR_TUTORIAL	The game will display some basic controls and instructions on how to play the game	If the tutorial is overly complicated this could result in the user not understanding how to play	Should
UR_GAME_MENU	When the user starts the game, they will be greeted with the main menu that will allow them to start the game, go to the options menu, go to the boat selection menu or exit the game	If the menu is overly complicated the user will find it difficult to navigate	Should
UR_OPTIONS_MENU	The options menu will allow users to adjust the resolution of the window of the game for their device and control the sound of the game, they should also be able to return to the main menu	If the menu is overly complicated the user will find it difficult to navigate	Should
UR_BOOST_ORBS	Each boat will be able to pick up set of boosts that can give the players boat special abilities including: immunity, speed, health, maneuverability, acceleration	The boost orbs should balanced as to not make the game too easy or too difficult for the user	Should
UR_OBSTACLES	During each race the boats shall face obstacles that float down the river where if hit the boats shall take damage	Obstacles should be balanced as to avoid them doing too much damage or too little	Should
UR_MUSIC	The game shall contain a soundtrack that shall play in the background when the game is running	If the music is poorly made it could make the overall experience of the game annoying and not enjoyable	Should
UR_QUALITY_CHECK	Every step we take when we are developing the game we must make sure that it is at a good quality for our client and keeps up with the modern standards of game development	If we do not quality check it could result in us developing a poor game that doesn't work properly	Must
UR_HEALTH_RESET	The user will have their health reset every race	Assumes that the races will be balanced enough to damage them at least a bit	Should
UR_STAMINA_REGENERATION	The user will be able to gain stamina back by allowing their boats rowers to rest (not holding forward)	The stamina bar should not be too powerful or too weak it should be balanced	Should
UR_PAUSE_MENU	The users will be able to pause the game and save their game	If the menu is overly complicated the user will find it difficult to navigate	Should
UR_LOAD	The player should be able to load a save game and resume from where they were from	The loading should not take too long or the player may stop using it	Should

Requirements ID	Description	Risks and Assumptions (if necessary)	User/Design Requirements ID
FR_UNIQUE_BOATS	Each boat must have unique statistics: Robustness, Maneuverability, Max Speed, Acceleration. These will affect the movement of the boat, as well as how much damage it can take before capsizing.	Some boats may be considered 'unbalanced' by either being too weak or too strong to race against and will affect the competitiveness of the game poorly	UR_BOATS, UR_BOAT_DETAILS

FR_TIMER	The system must track the time during the race	Assumes that built in time tracking functions are accurate	UR_FINAL_PLACE, UR_FINAL_RACE
FR_FINISH	The system must recognise when the user's boat crosses the finish line and calculate the time taken	Assumes the user crosses the finish line. Also assumes that there is a working timing function	UR_FINAL_PLACE, UR_FINAL_RACE
FR_OBSTACLES	The system must randomly generate obstacles on the course	Obstacles maybe unbalanced by either doing too much or too little damage meaning the game can become either too easy or too difficult for the user	UR_OBSTACLES, UR_DIFFICULTY, UR_DIFFICULTY_SELECTION
FR_OBSTACLE_INCREASE	The number of obstacles over the length of the course should increase for each race	Too many obstacles at once could make the course not possible for users to finish in good time or if there are too little obstacles the user will not be challenged enough	UR_OBSTACLES, UR_DIFFICULTY, UR_DIFFICULTY_SELECTION
FR_TIREDNESS	The energy of the crew should decrease over time. This carries over through each race	If the rowers get too tired too quickly it could make it impossible for the users to actually finish the races in good time or if the rowers don't get tired quick enough it can make the game too easy and result in the gameplay being too boring and not enjoyable	UR_STAMINA_REGENERATION
FR_UI	There should be animations in the game such as movement of boats	UI maybe too cluttered or have an unclear layout making it too difficult for users to navigate	UR_PLAYABLE, UR_CONVENTIONS, UR_QUALITY_CHECK
FR_ANIMATIONS	There should be animations in the game, such as movement of boats	Assumes the hardware is capable of playing animations along with the rest of the game	UR_PLAYABLE, UR_QUALITY_CHECK
FR_COLLISIONS	Upon collision with an obstacle, the robustness of the boat will decrease	Damage done could be too harsh or not harsh enough meaning that the game play will result in being not enjoyable for the player as it can be too easy or too hard	UR_OBSTACLES, UR_DIFFICULTY, UR_DIFFICULTY_SELECTION
FR_PENALTY	Total time outside the user's lane will result in a time penalty	If the penalty is too harsh or not harsh, if the penalty is too harsh it could be too hard for the player to finish with a good time. If it's not harsh enough it will be a poor deterrent to stop the user from moving out of their lane. Also assumes there will be a working timing function	UR_DIFFICULTY, UR_DIFFICULTY_SELECTION
FR_LANE_WARNING	The user should be informed by a warning if they leave the lane	Warning could obstruct the players view making the ability to move back into their lane to challenging or not the clear enough for the player to understand they are leaving their lane	UR_PLAYABLE, UR_CONVENTIONS
FR_SPEED_CONTROL	The user should be able to control the speed of the boat	Control sensitivity could hinder the players ability to control their speed	UR_PLAYABLE, UR_CONTROLS
FR_COURSE_BOUNDARIES	Boats should not be able to leave the course	Boats may leave the course and get stuck or be able to cheat	UR_PLAYABLE, UR_CONVENTIONS

FR_TITLE_SCREEN	The game should be able to launch into a title screen/menu	The player may not be able to navigate the menu/title screen	UR_GAME_MENU
FR_AI	Other boats in each race should be controlled by their own AI	AI could be too good at the game for the player to be able to beat or too easy to beat making the game boring	UR_PLAYABLE, UR_CONVENTIONS
FR_MUSIC	The game should have some background audio	Background music could be too distracting or too loud for the players to be able to enjoy the game	UR_PLAYABLE, UR_CONVENTIONS, UR_MUSIC
FR_OPTIONS	The game should have an options menu for the user to be able to edit the sound etc.	If the options menu isn't clear it can be too hard for the player to navigate it	UR_OPTIONS_MENU, UR_PLAYABLE
FR_PAUSE	The game should allow the user to pause during the race and allow the user to save	If the pause menu isn't clear it can be too hard for the player to navigate it	UR_PAUSE_MENU, UR_PLAYABLE
FR_SAVE	The game should allow the user to save during the game	Assumes there is a function that allows the user to save their progress within the game. Risk that the save file could end up being corrupted	UR_PAUSE_MENU, UR_PLAYABLE, UR_CONVENTIONS
FR_BOOST_ORBS	The game contains a series of orbs that allow the player to gain special abilities such as: immunity, speed, health, maneuverability, acceleration	The boost orbs should be balanced otherwise the game could become too easy or too difficult for the user	UR_PLAYABLE, UR_BOOST_ORBS
FR_HEALTH_REGEN	Health will be regenerated only after every race	Health regeneration should reset at the end of every race to help the user get to the final race	UR_PLAYABLE, UR_HEALTH_RESET
FR_TUTORIAL	There will be a tutorial available to the user that will indicate the controls for the game, as well as the championship structure.	The tutorial could be too complicated. It will result in the user not understanding how to play the game	UR_TUTORIAL, UR_PLAYABLE, UR_CONVENTIONS
FR_CONTROLS	The user will be able to control the boat using the "WASD" and arrow keys. They will also be able to speed up the boat using the "Shift" key.	If the controls aren't simple or linked to classic controls it could be too hard for players grasp and learn quick enough	UR_CONVENTIONS, UR_CONTROLS, UR_PLAYABLE
FR_DIFFICULTY_IMPLEMENTATION	The difficulty of the game will increase with each new race, by making the system controlled boats more competitive and increasing the number of obstacles. With the final race being at maximum difficulty	If the difficulty implementation is too great or not great enough, it can result in either the game being too hard or too easy meaning that the game will be non enjoyable	UR_DIFFICULTY