

# Requirements

## 2a) Introduction:

Upon reading the product brief, our team were able to elicit some system requirements of the game such as 'being able to engage in combat', 'the acquisition and use of plunder' etc. From this point, we did extensive research on requirements specification and brainstormed as a team to form numerous queries for our customer, in order to seek clarifications and additional details regarding the requirements.

During our customer meeting, we enquired about our customer's needs and preferences. We took note of the feedback, which then served us as guidance to list the remaining parts of our requirements table. For example:

- The customer pointed out that the player should be able to perform actions such as pausing the game or restarting the game.
- We then held a team meeting to discuss how to best implement the requirement, in this case it led to our implementation of a menu. Our team believes that a menu that provides the option to pause, restart, continue or quit the game, will satisfy this requirement the best.
- Following further team debates, we also added the requirement of the menu being easily accessible at any time during the game by clicking on a given key to our system requirements.

Our requirements are divided into three different parts:

1. user requirements
2. system functional requirements
3. system non-functional requirements.

This separation helps understanding the requirements and organises them coherently. The user requirement table contains columns listing their:

- Identification
- Description
- Implementation priority

making them easy to identify, understand and keeping our implementation organised. The two system requirement tables also contain the column 'User requirements', matching each of the system requirements to one of the user requirements. This design explicitly shows the relations between the user requirements and the system requirements, highlighting the coherency of our requirements. The system non-functional requirement table has an additional column 'Fit criteria' to help define and specify our goal.

## User requirements

ID	Description	Priority
UR_START_NEW_GAME	The user is able to start a new game	shall
UR_QUIT_GAME	The user is able to quit the current game	shall
UR_RESTART_GAME	The user is able to restart the game	shall
UR_PAUSE_GAME	The user is able to pause the game	shall
UR_CLOSE_GAME	The user is able to close the game	shall
UR_FIGHT_OTHER_COLLEGES	The user can start fights (engage in combat) with other colleges and ships	shall
UR_CAPTURE_COLLEGE	The user is able to capture other colleges	shall
UR_TRAVEL_WORLD	The user is able to sail their character around the virtual world and visit other colleges	shall
UR_COMPLETE_GAME	The user will be able to complete the game	shall
UR_LEARN_QUICKLY	The user should be able to learn how to play quickly	should
UR_CHOOSE_COMBAT_METHOD	The user can choose how they fight in combat	shall
UR_CHOOSE_COLLEGE	The user should be able to choose which college they play as	should
UR_OPEN_MENUS	The user should be able to use key shortcuts to open the menu etc.	shall
UR_VISUALS	The system will have appealing visuals	shall
UR_INTERACTION	The user will be able to interact with the system	shall
UR_COLOUR_BLIND	The system interface should be accessible for colour blind people	should
UR_AUDIO	The system will play a variety of audio	shall
UR_DIFFICULTY	The game shall be reasonably challenging for the user	shall
UR_PERFORMANCE	The system should perform smoothly on a variety of computers	shall
UR_FINISH	It should be clear when the user has either won or lost the game	shall
UR_OTHER_SHIPS	The user will encounter other ships sailing around the ocean	shall

UR_OBTAIN_CURRENCY	User can obtain gold throughout the game	shall
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### **System (Functional) Requirements**

ID	Description	User Requirements
FR_MAIN_MENU	The system should have a menu with buttons to start a new game	UR_START_NEW_GAME
FR_TUTORIAL	The system should have a tutorial so the player can learn how to play	UR_LEARN_QUICKLY
FR_PAUSE	The game should be able to be interrupted with a key press so the user can restart, quit or continue	UR_PAUSE_GAME
FR_FINISH	The game should show a game over / winning screen when applicable	UR_FINISH
FR_EXIT_TO_MENU	Quitting from within a game will lead to the main menu	UR_QUIT_GAME
FR_CLOSE_GAME	The main menu has a quit button to close the game completely	UR_CLOSE_GAME
FR_RESTART_CONFIRMATION	If the user wants to restart, give a confirmation	UR_RESTART_GAME
FR_FIGHT_ANIMATIONS	The fights should be animated	UR_VISUALS
FR_COMBAT_WIN_ANIMATION	There should be a clear animation when a college or ship is defeated	UR_VISUALS
FR_COLLEGE_GOLD	Users should be able to collect gold during college fights	UR_OBTAIN_CURRENCY
FR_COMBAT_CONTROL	The system should allow the user to control the movement and attacks in combat (i.e. it is not automated)	UR_CHOOSE_COMBAT_METHOD
FR_COLLEGE_DEFEATED	There should be a clear visual to show that a college has been defeated	UR_VISUALS
FR_INPUT_METHOD	The game should be controllable using a keyboard and mouse	UR_INTERACTION

FR_AUDIO	The game should play background music and sound effects for various actions	UR_AUDIO
FR_MUTE_AUDIO	The game audio should be able to be muted	UR_AUDIO
FR_RESIZE_WINDOW	The game window should be able to be resized	UR_VISUALS
FR_DIFFICULTY_INCREASE	The longer the game is played, the harder combat gets	UR_DIFFICULTY
FR_OPERATING_SYSTEMS	The game behaves identically for different operating systems	UR_PERFORMANCE
FR_VIOLENCE	The game should not be violent	UR_VISUALS
FR_COLOUR_BLIND_TYPES	The system should have options for different colour blind types	UR_COLOUR_BLIND
FR_OTHER_SHIPS	The ships will follow a set path	UR_OTHER_SHIPS

### **Non-functional Requirements**

<u>ID</u>	<u>Description</u>	<u>User Requirements</u>	<u>Fit Criteria</u>
NFR_LOAD_TIMES	The system should load quickly	UR_PERFORMANCE	95% of load times are <10 seconds
NFR_PERFORMANCE	The system should run smoothly and be responsive	UR_PERFORMANCE	>=60fps on average over system runtime
NFR_GAME_DURATION	The game shall be completed within a reasonably short amount of time	UR_COMPLETE_GAME	Game run time <10 minutes
NFR_COLOUR_BLIND	The system shall be easy to use for colour blind people	UR_COLOUR_BLIND	90% of colour blind people will have little difficulty using the system
NFT_LEARN_GAME	The system should be operable by users who have completed the tutorial	UR_LEARN_QUICKLY	90% of users will be able to complete the game after completing the tutorial