Requirements

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How requirements were elicited

For the requirements, we elicited them by first looking at the brief, and then commenting on each feature we would need to implement. For each feature, we noted what was required. This would form the basis of our requirements table.We then noted any questions we had about the brief and features of the game. During the customer meeting, we brought up these questions and allowed the customer to elaborate on what they expected of the product. This gave us a few more requirements that we proceeded to add to the table. We split the requirements into 6 properties, represented by a column:

- **ID**: An ID to quickly find what requirements are involved in what section of development.
  - 1. - Needed for part 1 of the assessment
  - 2. - Needed for part 2 of the assessment
  - 3. - General requirement for both
  - Any further number points (1.2, 2.3.1, etc.) are a breakdown of the requirements into smaller subsections.
- **Requirement**: Requirements that the product needs to uphold to satisfy the stakeholders, or requirements needed for a coherent design.
- **Requirement Type**: Functional requirements are for user task completion. Non-functional requirements are for user experience satisfaction.
- **Environmental Assumptions**: Assumptions made about the context of the users when interacting with that feature. Ie. what they are currently doing, or what they are trying to do.
- **Potential Risks**: The most likely way(s) in which the requirement doesn't work. This may include general risks linked in the risk table. It may include needing a different requirement to be fulfilled first. Or it may be a very specific risk that needs to be explained.
- **Alternative**: The next best option if any of the potential risks are fulfilled. "NONE" means that the requirement is explicitly desired by the stakeholders and cannot be anything else.

Table of Requirements

ID	Requirement	Requirement type	Environmental assumptions	Potential Risks	Alternative
1.1	Colleges	Functional	Capturing the colleges to win the game (1.5)	Risk: 6 (3.1) if too many colleges	NONE
1.1.1	Combat mechanics (capturing colleges)	Non-functional	Capturing the colleges to win the game (1.5)	Requires 2.1.1. Risk: 6 (3.2) Risk: 9 Risk: 10	Implement combat at stage 2
1.1.1.1	College combat AI	Non-functional	Capturing the colleges to win the game (1.5)	Risk: 8	Don't have 1.1.1
1.1.2	Different college themes	Non-functional	Capturing the colleges to win the game (1.5)	Risk: 9	Don't implement
1.1.2.1	Mega boss battle, combining all mechanics	Non-functional	Capturing the colleges to win the game (1.5). Final objective	Risk: 9 It requires 1.1.2 be fulfilled	Don't implement
1.1.3	Interactables (eg. docking to capture, shops 2.2.3)	Non-functional	Driven up to it (1.2), wanting to interact with it	May be too complicated to implement Risk: 9. Risk: 11 may not be clear	Drive into college hitbox to interact
1.2	Movement of player on the world map	Functional	Playing the game	Might be; too janky, unintuitive, or unenjoyable. Risk: 10	NONE
1.2.1	Consistent movement speed between diagonal and orthogonal	Non-functional	Moving in real time across the map	Risk: 9	Don't implement
1.3	Functioning menu system	Functional	Wanting to choose from a set of options	Potentially Risk: 9	Have it always on screen.
1.3.1	Pauses game	Non-functional	In a menu (1.3.4)	Gameplay may be pause-abused. Risk: 6 (3.1)	1.3.2

				Risk	
1.3.2	Leaves game running	Non-functional	In a menu (1.3.4)	Risk: 10 Risk: 6 (3.4) Risk:11	1.3.1
1.3.3	Settings	Non-functional	Want specific changes for better quality game	Risk: 9	Don't implement
1.3.3.1	Accessibility settings (Risk: 10)	Non-functional	Want specific changes for more accessible game	Risk: 9. Requires 1.3.3	Don't implement
1.3.4	Pop up menus (ie. for shops 2.2)	Functional	Wanting to choose from a set of options	May be visually unclear. Risk: 10 Risk: 11	Redesign
1.4	Assets for visual design	Functional	Playing the game	Risk: 11 May infringe on 3.3 if indistinct	Redesign
1.5	Randomised objectives to complete to win the game	Non-functional	Trying to beat the game	May get unfair random objectives Risk: 8 Risk: 10 Risk: 6 (3.1)	Have static objectives that do not change
1.6	Scoring system	Functional	Playing the game	Could focus too much on score. May imply breaking 3.1.2. Risk: 10	NONE
1.6.1	Plunder (ie. gold) system (Gotten from completing objectives)	Functional	Completing objectives (1.5) and buying upgrades (2.2)	May infringe on 3.1 and 3.4 if they're low-skilled users.	Give free money if they're struggling
1.6.2	Points system (rewards more fun/difficult style of gameplay)	Non-functional	Completing objectives (1.5)	Could focus too much on points. May imply breaking 3.1.2 to the user. Risk: 10	Don't implement
1.7	Sound (Music & SFX)	Non-functional	Playing the game	Risk: 11 Risk: 10 Risk: 9	Don't implement
2.1	Enemy pirate ships	Functional	Get closer to the objectives (1.5)	Requires 1.4. May be visually unclear Risk: 11	NONE
2.1.1	Combat against other ships	Functional	Get closer to the objectives (1.5)	Risk: 10	NONE

ID	Name	Type	Reason/Trigger	Risk/Requires	Notes
2.1.2	Enemy ai	Functional	Get closer to the objectives (1.5)	Risk: 8, Risk: 6 (3.4 and 3.1)	NONE
2.2	Shop	Functional	Spending gold to get ship upgrades (2.2.1)	Requires 1.3.4. Risk: 11 Risk: 10	NONE
2.2.1	Ship upgrades	Non-functional	Wanting to do better when fighting colleges or other ships (2.1.1, 1.1.1)	Having too many upgrades/choices may make the player take a long time choosing or trying to get all upgrades, Risk: 6 (3.1)	Lock out some choices for certain conditions to unlock
2.2.2	Shopkeeper sprite	Non-functional	Using the shop (2.2)	Risk: 9 Risk: 6 (3.3)	Don't implement
2.2.3	Interactables for shop (ie. docking)	Non-functional	Driven up (1.2) to shop to interact with it (1.1.3)	If not enough shops, Risk: 10 Requires 1.1.3	Shop is accessible wherever the user is.
2.2.4	[Shop implementation of choosing thing to buy and how it looks]	WIP			
2.3	Ocean obstacles	WIP			
2.4	Weather	WIP			
3.1	5-10 minute gameplay	Functional	Playing the game	Means we can't add too much content or make the game too difficult (3.4)	NONE
3.1.2	1 playthrough, no replay	Functional	Playing the game	Can't add side content or a time limit	NONE
3.2	Locked into fights	Functional	Fighting the college or other ships (2.1.1, 1.1.1)	Risk: 9 Risk 10	Don't implement
3.3	Screen size adjustable to monitor	Functional	Starting up the game	Risk: 9	NONE
3.4	Moderate difficulty, suitable	Functional	Playing the game	Means the game has to be simple to	NONE

	understand and easy to play			for almost all ages	