

User Requirements		
ID	Requirement	Notes
Functional - things a system must do		
Transformation: <i>Required response to a condition/event</i>		
A1.1	If the player defeats a ship, they should be rewarded	Risk: The player is rewarded disproportionately to the cost of battle
A1.2	The player should have encounters when they move in sailing mode	
A1.3	If the user travels, there should be a reasonable cost	Alternative: Encounters are difficult enough to be costly to the user
Invariant: <i>Property that must always hold</i>		
A2.1	The player should be able to spend resources	Assumption: The player has sufficient gold
A2.2	The player should have a main objective	Risk: Objective is not achievable
A2.3	The game must have a minigame	
A2.4	There must always be a way to lose the game	Assumption: The player does not want to lose the game
A2.5	The player should be able to attack land bound objects like colleges or departments	
A2.6	The game map must have at least 5 colleges, 3 departments	
A2.7	The player should earn points	Risk: Unbalanced point earning
A2.8	The game should include a sailing and combat mode	
A2.9	The game must be themed on the University of York campus	Fit Criteria: All names should be from the University of York
Failures: <i>Forbidden/permissible transformations</i>		
A3.1	The player should not have the final objective available to them immediately	Assumption: The player is starting a new game
Non-functional Qualities a system must have		
A4.1	The game must be enjoyable for the user	Fit Criteria: Create an enjoyment survey and

		give it to a number of new players
A4.2	A game session should last a reasonable amount of time	Assumption: The player is not very experienced with this game Fit Criteria: Time new player's game time and confirm it does not exceed 30 minutes or fall under 5 minutes (assuming they don't fail)
A4.3	Game must be intuitive to use	Assumption: The player does not play games frequently Fit Criteria: When observing, record any situations where the user accidentally does the wrong action or is confused
A4.4	The game must be themed on the University of York campus	Fit Criteria: All names should be from the University of York

System Requirements

ID	Extends	Requirement	Notes
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Functional Requirements

Transformation Required response to a condition/event

B1.1	A4.3	The game should have a user manual to help with play	Alternative: The game guides the player as they play
B1.2	A1.2 A2.8 A1.3 A2.5	Deciding to engage in combat must result in switching to combat mode	Alternative: Combat is optional (with some kind of cost) Risk: Encounters are too easy or hard
B1.3	A1.3 A2.1 A4.2	The player moving should use resources	Alternative: Encounters are challenging enough to be a cost
B1.4	A2.5 A2.6	Colleges and departments should be given a location on the map when the game starts	Risk: Locations are unbalanced or impractical
B1.5	A2.4	The system must end the game when the users health is 0	Assumption: No effects exist that prevent the player from dying Alternative: The player respawns and the game continues
B1.6	A2.1	The system must display contents of the shop and allow purchase of items when shopping	Assumption: The shop contains unowned items
B1.7	A1.1	Successful encounters should give	Risk: Unbalanced point and gold income

	A2.7	the player points and gold	
B1.8	A2.4	The system must end the game when the user doesn't have enough resources to travel.	Assumption: The player cannot obtain resources without travelling
Invariant <i>Property that must always hold</i>			
B2.1	A1.1 A2.1	The game should include a virtual currency (gold)	Alternative: Some other currency or using points as currency
B2.2	A4.1 A2.2 A3.1 A4.2	The system must block access to a certain location which contains the final boss challenge	Risk: The area does not unlock once the criteria have been completed Alternative: Final objective is spread across the existing map
B2.3	A2.3	A minigame should exist that rewards the player	Risk: Unbalanced rewards Alternative: Minigame does not influence gameplay and is just for entertainment
B2.4	A2.8 A4.3	The game should always display ship statistics such as health.	Assumption: The player is in the game and not at the main menu
Failures <i>Forbidden/permissible transformations</i>			
B3.1	A2.1 A4.3	The player should not be able to spend more money/resources than they have	Alternative: Debt system is put in place
Non-functional requirements			
B4.1	A4.1	Responsive controls	Fit Criteria: No more than 0.5 seconds between an input and something starting to happen
B4.2	A4.1 A4.3	Intuitive user interface	Fit Criteria: User is able to play the game without accidentally making the wrong move
B4.3	A4.4	The game must be appropriate for students to play on open days, so not containing any offensive material	Fit Criteria: Contains no visible violence and no negative reference to staff or the university

Constraint Requirements - Global issues that shape the reqs (split into project/process/design)

ID	Requirement	Notes
C1	The game must be completed and delivered by 1/5/2019 and has milestones at 21/1/2019 and 18/2/2019	

C2	The game must not crash during any more than 1 in every 15 instances.	
C3	The game must run on Windows	Alternative: Also runs on Mac or Linux Assumption: University computers run Linux and Windows and most students have a Mac or Windows laptop
C4	The game must not contain copyrighted material	