

Colour Coding Key:			
Shall			
Should			
May			
Updates and additions			
User Requirements:			
User ID	Description	Source	Priority
UR_WIN	The player wins if they flood the ET fortresses before the ET fortresses and ET patrols destroy all of the player's fire trucks	Product brief	Shall
UR_LOSE	The game is lost if all the player's fire trucks have been destroyed before the player has flooded all of the ET fortresses	Product brief	Shall
UR_MINI_GAME	The game should include a minigame	Product brief	Should
UR_MINI_GAME_THEME	The minigame should be different in style, but aligned to the theme of the main game	Product brief	Should
UR_REPAIR	Fire trucks can be repaired and refilled at the fire station	Product brief	Should
UR_FIRE_TRUCKS	There must be at least four fire trucks	Product brief	Shall
UR_FORTRESS	There must be at least six fortresses	Product brief	Should
UR_SCALABILITY	The game should be able to be played on other platforms	Product brief	May
UR_PATROLS	There should be at least 2 ET patrols that the user aims to avoid	Product brief	Should
UR_DESTROY_STATION	At a point in the game the fire station should be destroyed	Product brief	Should
UR_ENJOYABILITY	The game should be enjoyable to play	Product brief	May
UR_PLAYABLE	The game must be playable. Dependant on environmental assumptions (see below table)	Product brief	Shall
UR_PLAYER	The game must be a single-player game	Product brief	Shall
UR_CODE	The game must be coded in Java	Interview	Shall
UR_PC	It must be a PC game	Interview	Shall
UR_TRUCK_SPACE	Fire trucks should not drive over each other or be able to occupy the same space	Email with customer	Shall
UR_POWER_UPS	The game must contain power ups, of at least 5 varying types	Updated brief	Should
UR_ATTRACTIVE	The game should be pleasant to look at	Product brief	Should
UR_PG13	The game must be appropriate for people of age 13 and up	Product brief	Shall
UR_SAVES	The player must be able to save the game at any point during a playthrough	Updated brief	Should
UR_MANY_DIFFICULTIES	The game must have multiple possible difficulty levels	Updated brief	Should
Environmental assumptions:			
1) The player is assumed to be playing on a modern computer that is of reasonable specifications.			
2) The user will have standard hardware such as a keyboard and mouse.			
3) The user will have java installed to run the program.			

Functional Requirements:				
ID	Description	Source	Priority	User ID
FR_FIRE_TRUCKS	Each fire truck must have a unique spec in terms of its speed, amount of damage it can take before being destroyed, the volume of water it can carry, the range and delivery rate of its water cannon	Product brief	Shall	UR_FIRE_TRUCKS
FR_FORTRESSES	Each ET fortress must have a unique spec in terms of the range of its defensive weapons, the amount of damage these weapons can deal to fire trucks over a period of time, and the volume of water it takes to flood	Product brief	Should	UR_FORTRESS
FR_MOBILITY	The user can move the fire trucks. Patrols and fire engines should be mobile; fortresses should be immobile	Product brief	Shall	UR_PLAYABLE
FR_AI	The ET patrols and ET fortresses are controlled by the computer AI	Product brief	Shall	UR_PLAYER
FR_TRUCK_ATTACK	Fire trucks can flood ET fortresses	Product brief	Shall	UR_FIRE_TRUCKS
FR_FORTRESSES_ATTACK	ET fortresses attack trucks	Product brief	Shall	UR_FORTRESS
FR_FORTRESSES_IMPROVE	ET fortresses improve over time	Product brief	Shall	UR_FORTRESS
FR_VIEW_TIMER	The player must see the amount of time until the fire station is destroyed	Interview	Should	UR_DESTROY_STATION
FR_PATROL_ATTACK	ET patrols can attack trucks	Product brief	Shall	UR_PATROLS
FR_PATROL_INCREASE	The number of patrols should increase throughout the game	Interview	Should	UR_PATROLS
FR_PATROL_DAMAGE	Patrols should damage fire trucks that enter a predefined circumference around them, however the damage should be to a lesser extent than the fortresses	Interview	Should	UR_PATROLS
FR_PATROL_SIGHT	Patrols should chase fire trucks that are within their range of sight	Interview	May	UR_PATROLS
FR_ACCESS_MINIGAME	The mini game should be accessed from within the main game	Interview	Should	UR_MINI_GAME
FR_CONTROLS	There should be a screen that explains the controls	Interview	May	UR_PLAYABLE
FR_STATION_DESTROY	Fire trucks cannot be repaired or refilled after the fire station has been destroyed	Product brief	Should	UR_DESTROY_STATION
FR_MENU	There should be a menu screen from which the user has the option to start the game, see the controls or quit.	Email with customer	May	UR_PLAYABLE
FR_GAME_OVER	There should be a 'game over' screen once the game is ended telling the player if the game is won or lost.	Email with customer	May	UR_ENJOYABILITY
FR_SOUND	There could be sound effects with the game	Email with customer	May	UR_ENJOYABILITY
FR_SOUND_OFF	If there are sound effects, it should be possible to turn these off	Email with customer	Shall	UR_ENJOYABILITY
FR_ANIMATION	The fortresses and fire trucks should change appearance as they are destroyed	Email with customer	Should	UR_ENJOYABILITY

FR_REPAIR_REFILL	The player wins if they flood the ET fortresses before the ET fortresses and ET patrols destroy all of the player's fire trucks	Email with customer	Shall	UR_REPAIR
FR_SAVE_GAME	The player should be able to save a play through at any time.	Updated brief	Shall	UR_SAVES
FR_LOAD_GAME	The player should be able to load one of at least 3 saves	Updated brief	Shall	UR_SAVES
FR_POWER_UPS	There should be at least 5 different types of collectable power up	Updated brief	Shall	UR_POWER_UPS
FR_DIFFICULTIES	There should be multiple difficulty levels for the player to choose from	Updated brief	Shall	UR_DIFFICULTIES

Non-functional Requirements:

ID	Description	Fit Criteria	Rational	User ID
NF_PC	The game must be playable on engines/things that can be played on PC	The game must use libraries /function that could be used on other platforms	Product brief	UR_PLAYABLE
NF_RESPONSE	The game must respond quickly to user input	Average response time >1 second, maximum response time >2 second	Improved user experience	UR_ENJOYABILITY
NF_CONTROLS	The controls should be easy to learn	The player should be able to grasp the controls in under 2 minutes	Prospective students should be able to play the game	UR_ENJOYABILITY
NF_PG13	The game should not contain any gore, swear words or anything else that would be inappropriate for people under 13	Prospective students and their families should be able to play the game safely	The game should see no gore, blood, swearing, or anything else inappropriate	UR_PG13

Risks: The main risks relevant to the requirements are R4 & R7 (see risk assessment table in risk management section).

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