

# Requirements

TEAM ZANETTA

HARRY KELLY, TIMOTHY KERR-CHIN, JOE SANDERS, SIYAAM  
MAHMOOD, EMILY TIERNEY & ALEXANDRE PINNEAU

# Part a

## Introduction

We began our requirements engineering process by considering the product brief. From this document we were able to infer several requirements in addition to identifying several aspects of the game about which we would need to clarify with the customer.

On October 20<sup>th</sup> 2020 we had our first team customer meeting in which we discussed questions which arose from reading the product brief. At this meeting we mainly discussed user requirements / functional system requirements and after the meeting we compiled all the known user requirements into a user requirements table, assigning each requirement a unique ID, a description and a priority.

We had another team customer meeting on October 27<sup>th</sup> 2020 in which we clarified non-functional requirements of the game. After this meeting we had the information we needed to create our single statement of need and both our functional and non-functional system requirements tables.

## Part b

### Single Statement of Needs

***“The game which will be used for promotional purposes at university open days shall be both a self-running demo and playable by a person.”***

### User Requirements

ID	Description	Priority
ur_game_description	The game will be a top-down, 2D, single player, real-time game set on a Space Station, and feature no graphic violence or blood.	Shall
ur_operative	8 Hostile operatives with one of at least 3 special abilities will roam around the station, and sabotage key systems to render it inoperable.	Shall
ur_sabotage	The player will be notified about sabotage and must identify and arrest the perpetrator, beaming them to the brig, before they destroy a critical number of systems	Shall
ur_station	There must be at least 4 types of rooms in the station, and it will be inhabited by humans and aliens	Shall
ur_teleport	Rooms may have teleportation pads allowing the player, but not the infiltrators, to teleport between rooms.	Shall
ur_infirmary	There will be an infirmary which the player may teleport to to heal	Shall
ur_game_end_condition	If all 8 infiltrators are captured, the game is won. If more than 15 systems are destroyed, the game is lost.	Shall
ur_demo	The game will have a demo mode, in which it plays itself to show off the game and draw in potential players.	Shall
ur_operability	The game should be easily operable	Shall
ur_documentation	Additional documentation won't be needed to operate the game	Shall
ur_sound	Any in game sounds musn't be essential	Shall
ur_input	Only a keyboard and mouse should be used for input	Shall
ur_display	The game should adapt do being played on different screen sizes	Shall

# System Requirements

## Functional

ID	Description	User Requirements
FR_MOVE	Allow character to move up, down, left or right using keyboard input (arrow keys)	ur_game_description
FR_TASER	Allow Auber to attack enemy	ur_sabotage

FR_SCAN	while the user press scan button, any nearby impostors will be visually revealed, with a visual overlay popping up over the face of what otherwise look like allies	ur_sabotage
FR_TELEPORT	teleporting pads around the game map will allow the player to teleport between them	ur_teleport
FR_IMPOSTER_TYPES	Four types of imposters will be implemented, all of whom will sabotage systems but three types will have separate special abilities. Intern: No special ability Tinkerer: Will drop explosives around the map which can hurt the player Ringleader: Is protected by a "brute" and will teleport to another place on the map when the brute is stunned Brute: Protects the ringleader and can hurt Auber by attacking him	Ur_game_description
FR_SABOTAGES	As directed by the game controller class, the imposters will sabotage different systems, with sabotages becoming closer together as time passes	ur_operative
FR_SHOCK	When any of the impostors is hit by the player's taser 3 times they will go into "shock" a state in which they will be passive and the player can carry them to the brig	ur_operative
FR_ATTACK_MODE	When the player enters "attacking range" the brute will attack	ur_operative
FR_TRAP_PLACE	Every 10 seconds each tinkerer will lay a mine	ur_operative

FR_TRAP_TRIGGER	Each mine is triggered when Auber is in "explosive range"	ur_operative
FR_HP	The player's health should decrease whenever he is within range of an exploding mine, or he is attacked by a brute	ur_operative
FR_RINGLEADER_TELEPORT	The ringleader should teleport to another room on the map when the brute is stunned	ur_infirmmary
FR_ROOM_TYPE	Four types of rooms will be included in the game map	ur_station

FR_GAME_END	when all 8 infiltrators are captured or more than 15 systems are destroyed, the game ends	ur_game_end_condition
FR_DEMO	Game runs by itself in demo mode if not being played by a user	ur_demo

#### Non - Functional

ID	Description	User Requirements	Fit Criteria
Nfr_operability	The game shall be able to be understood by players with little to no practice	Ur_operability	The user should feel they understand the game after one play through
Nfr_demo	A demo mode of the game will be shown when the system isn't in use	ur_demo	The demo mode should begin to play when the none of the game controls have been used in 15 seconds
Nfr_documentation	The game will be self documenting	Ur_documentation	Any necessary instructions will be shown on screen, and the user should feel they can understand the game without any additional documentation
Nfr_sound	Any in-game sounds must be able to be turned off	Ur_sound	The game must be fully functional with the sound muted
Nfr_input	The game must use only available input equipment	Ur_input	Only a keyboard and mouse must be used
Nfr_display	The game should be playable on different screen sizes	Ur_display	The game must support full screen mode on both laptops and large (eg;32 inch) screens covering the entire monitor