Module	ENG1
Year	20/21
Team	33 (Short Circuits)
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Deliverable	Requirements

A. Introduction

Requirements engineering (RE) means gathering everything you need ahead of time for making a good project[1] (Softwareone, 2020). RE plays an important role in system development and maintenance, which is directly related to the success of the system.

We organized the requirements from the brief and prepared the questions before the team-customer meeting. Interviewing the stakeholders and communicating difficulties with customers are necessary to avoid or eliminate early errors. Modified the requirements, added requirements, prioritised requirements and resolved requirements conflicts to determine the user requirements(UR) through multiple meetings and team discussion.

Functional requirements(FR) are essential for the project and decide what the system can do or not do. Functional requirements should focus on user requirements. We transformed user requirements into system functions to make sure the system can provide useful functionality for users. Basically, one user requirement can be converted into several functional requirements.

Non-functional requirements(NFR) are not directly related to functions, but they define the constraints received to implement system functions. The requirements can be measured and the fit criteria is used to measure requirements whether meet the customers' expectation..

B. Statement

User Requirements	
ID	Description
UR_MAP	The map should contain rooms and characters
UR_UX	The player should arrest the infiltrators
UR_INFILTRATORS	The infiltrators aim to sabotage the systems
UR_END	The players win when eight infiltrators have been arrested. The players fail when infiltrators have successfully destroyed more than 15 systems of the space station.
UR_GAME_TYPE	The game must be real-time (not turn-based)
UR_PROGRAMMING_LANGUAGE	Must use Java as programming language

Functional Requirements		
ID	Description	User requirements
FR_ROOMS_NUMBER	There should be at least 4 types of rooms	UR_MAP

FR_TELEPORTATION_PADS	In some rooms, there exists teleportation pads	UR_MAP
FR_INFIRMARY	The map should contain the infirmary	UR_MAP
FR_SYSTEMS	There should be at least 15 systems of space stations on the map	UR_MAP
FR_CHARACTERS	There are 8 hostiles and one player	UR_MAP
FR_NAME	The player is named Auber	UR_UX
FR_TELEPORT	The player can teleport around the map through teleportation pads	UR_UX
FR_HEAL	The player can teleport to the infirmary to heal	UR_UX
FR_NOTIFIED	The player will be notified when the hostiles are trying to sabotage key systems	UR_UX
FR_ARREST_HOSTILES	The player can arrest hostiles.	UR_UX
FR_DEMO_MODE	There should be a demo mode to give an illusion of the game being played	UR_UX

FR_NOT_TELEPORT	The infiltrators can not teleport around the map	UR_INFILTRATORS
FR_DESTROY	The infiltrators can destroy the systems of space stations	UR_INFILTRATORS
FR_INFILTRATORS_ABILITY	The infiltrators have three different special abilities to avoid arrest	UR_INFILTRATORS

Non-Functional Requirements		
ID	Description	Fit Criteria
NFR_DURATION	The round of the game should be suitable.	Around 5-10 min
NFR_OPERABILITY	The game has only one difficulty.	It should be easy for the first time player to grasp
NFR_TIMING	The player can load in a short time	In <2 seconds
NFR_RUN	The game should run on laptop/computer	According to ENG1 cohort
NFR_COMPATIBILITY	Support Windows operating system	Play the game on Windows

References

[1]Software(2020). Documentation of requirements. Available at:
https://www.softwareone.com/en-gb/blog/articles/2020/03/11/equirements-engineering-documentation-of-requirements