Requirements
TEAM 29

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Requirements

SSON

'The system will provide a complete and enjoyable gaming experience, where the user can learn to play without any outside interaction, and without any major issues arising.'

Introduction

To ascertain the requirements for our system, as a team, we attended multiple customer meetings with one of our direct stakeholders. Throughout these meetings we determined numerous requirements that would be the foundation to our future system. In addition, we reviewed the provided product brief to form more requirements.

Once we had obtained our requirements, we hosted multiple video conferences within our team to finalise them, as well as split them into three categories: user; functional; non-functional. Within our requirements we identified multiple transformative and invariant functional requirements, such as movement of the user's character (FR_MOVEMENT) and arresting imposters (FR_ARREST). Additionally we found that some of our non-functional requirements had characteristics of operability, scalability and usability, with the escalation of difficulty being an example of this.

Once we had categorised our requirements, we laid them out in three separate tables, utilising the ids of the user requirements table as foreign keys within the functional and nonfunctional requirement tables. Furthermore, a single statement of need was created to represent the overall goal for our future system.

User Requirements - make sure these trace back to customer meetings/brief

UR_MOVEMENT	The user should be able to move their playable character.	The user's playable character shall move in response to an input.	Shall
UR_AESTHETICS	The system may be visually appealing to the user.	The user enjoys playing with the system.	May
UR_ARREST	Game shall allow you to arrest NPCs.	The user should be able to arrest NPCs as this is a core function in the game.	Shall
UR_TELEPORT	The user should be able to teleport between designated teleport pads.	The user's playable character will appear on a different teleport pad.	Shall
UR_VISUAL	The system should be visually accessible and easy to understand for the user.	The game should be intuitive visually and have a simple yet clear art style.	Should
UR_DIFFICULTY	The User must be able to choose a specific level of difficulty when starting the game.	Implement support for different levels of difficulty in the game (e.g. easy, normal, hard)	Shall
UR_SYSREQ	The user should be able to run the game.	The game should run for the duration of a full match.	Shall
UR_DEMO	There should be a demo available to the user.	The game should have a small demo available in the main menu	Should
UR_ROOMS	The user should be able to access multiple rooms throughout the map.	The game should include at least 4 rooms.	Shall
UR_NAVIGATION	The user should be able to easily navigate the map of the game.	The map should be memorable and well laid out.	Shall
UR_NOTIFY	The user should be notified of any key systems being destroyed	The game should indicate to the user that a key system is being destroyed	Should
UR_HEAL	The user should be able to heal their playable character in the map's infirmary.	The game should heal the user's playable character to full health upon input.	Should

UR_ABILITIES	Infiltrators should be able to use three abilities that make them more difficult to arrest.	Infiltrators should use abilities as a response to the player to try and escape arrest	Should
UR_REALTIME	The system shall play in real-time, and not in a turn-based format.	All processes shall be tracked in real time.	Shall
UR_PLAYER_ABILITIES	Players shall be able to collect five special power up on the journey	Implement five special power ups that Auber can obtain on the journey e.g. granting temporary immunity, becoming invisible	Shall
UR_SAVE_LOAD	The user must be able to save their game at any point during the game and be able to resume from that point at a later time.	Implement facilities that allow players to save the state of the game at any point and resume a saved game later	Shall

Functional Requirements

FR_MOVEMENT	The system shall move the user's playable character upon input from directional keyboard keys.	UR_MOVEMENT
FR_TELEPORT	The system shall teleport the user's playable character upon input from the user.	UR_TELEPORT
FR_ROOMS	The system shall have several accessible rooms throughout the map.	UR_ROOMS
FR_DIFFICULTY	The system shall have multiple different difficulties that provide different levels of challenge to the user.	UR_DIFFICULTY
FR_MAP	There should be a map of the game accessible to the user during the game.	UR_NAVIGATION
FR_ARREST	The system should allow you to arrest NPCs you suspect of being infiltrators.	UR_ARREST
FR_HEAL	The system should allow the user's character to heal in the infirmary.	UR_HEAL
FR_DEMO	The system should allow a short simulation of how the game is to work to play	UR_DEMO

FR_ENDGAME	The system shall allow the game to end and not be playable forever.	UR_REALTIME and UR_SYSREQ
FR_PAUSE_SCREEN	The system shall allow the user to enter a pause screen so that they can decide to save the game at the point they are currently in while playing the game. Whilst in this screen the game must completely pause and resume once this screen is exited.	FR_SAVE_LOAD

Non-functional requirements

NFR_PERFORMANCE	System runs at a steady, high FPS.	UR_UX, UR_SYSREQ	The system runs efficiently on all platforms.
NFR_INPUT	The system shall take input from the user and display the output correctly. Change to ease of use with controls, standard keys etc	UR_MOVEMENT, UR_ARREST, UR_TELEPORT	Correct output from an input will be displayed in <1 second.
NFR_AESTHETICS	Have a consistent art style (pixel art) to prevent visual clutter.	UR_AESTHETIC, UR_VISUAL	All sprites and artwork will adhere to the same style and design, and look coherent.
NFR_DIFFICULTYTESTING	Have people test the game in case it's too easy or unbeatable.	UR_DIFFICULTY	The game should be playable without any experience at the start and then require substantial effort nearer the end.