Req1

Enigma / Team 29

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Requirements

SSON

Our system is to create the game called Auber. This game is about a constable of a space station who needs to find and arrest aliens who are sabotaging the space station. The program is going to be shown on open days to prospective students.

How we decided our requirements

We decided our requirements based on the product brief provided to us at the beginning of the project alongside multiple customer meetings and discussions with the group. The product brief noted the customer requirements as well as the constraints and was where most of the user requirements came from. To get the final customer requirements as well as a better understanding and clarification of the ones noted in the project brief, we carried out several customer meetings. One new customer requirement that was given during these meetings was that we should also include a demo feature of the game that should be running on open days or other events which would demonstrate a scripted game that shows how the game operates as if a player was playing it at the time.

Based on these customer requirements we needed to decide our functional requirements and non-functional requirements and decided to layout our decisions in 3 separate tables as described in the "Requirements Engineering" pdf document. We decided to use this method to display our Requirements as it allowed us to easily view the different types of requirements and how they interacted with each other. The table format aided this as we could simply organize our requirements including the relevant information for each type.

ID	Description	Priority
UR_RESTRICTED_ITEMS	Restricted items shall not be sold to customers without age verification	Shall
UR_FORMS_OF_PAYMENT	The system shall support cash and card payments	Shall
UR_UX	The system shall offer a pleasant user experience	Shall
UR_BRANDING	The user-interface of the system will be consistent with the branding of the company	Should
UR_UNAVAILABLE_NETWORK	Customers should be able to use the system even when the network is unavailable	May
...	...	...

- There must be at least 4 types of rooms in the station (e.g. cargo bays, personnel quarters, infirmary)
- Rooms can have teleportation pads from which Auber (but not infiltrators) can teleport to any other teleportation pad in the station
- There must be at least 3 distinct special abilities within the group of infiltrators
- Auber can teleport to the infirmary to heal
- The game must be real-time (not turn-based)

User Requirements Table
From: Requirements Engineering PDF

Bullet pointed user requiremented
From: Cohort 1 Product Brief: Auber

User requirements table

ID	Description	Priority
UR_ROOM_TYPES	There must be at least 4 types of rooms in the station	Shall
UR_ROOM_TELEPORTERS	Rooms can have teleportation pads from which Auber (but not infiltrators) can teleport to any other teleportation pad in the station	Should
UR_AI_ABILITIES	There must be at least 3 distinct special abilities within the group of infiltrators	Shall
UR_HEAL	Auber can teleport to the infirmary to heal	Shall
UR_REAL_TIME	The game must be real-time (not turn-based)	Shall
UR_NOTIFICATION	Auber is notified when a sabotage attempt is reported	Should
UR_AI_SABOTAGE	The AI must attempt to destroy key systems on the ship	Shall
UR_ARREST	The user must be able to arrest the aliens (teleporting them to the brig)	Shall
UR_SYSTEMS	There must be a minimum of 15 systems for the AI to destroy	Shall
UR_GAME_END	The game is lost when infiltrators have successfully destroyed more than 15 systems of the space station	Shall
UR_DEMO	The game should have a demo mode such as a premade example gameplay video	Shall

Functional requirements table

ID	Description	Notes	User requirements
FR_TELEPORTER_FUNCTION	Users should be able to teleport to a specific teleporter or the teleporter in the adjacent room	Alternative: could allow the user to teleport to any other room that contains a teleporter.	UR_ROOM_TELEPORTERS
FR_TELEPORT_ARROWS	Arrows displaying the location of the corresponding teleporter should appear when stepping on it	Alternative: arrows could be shown at all times but can only be used when stepping on a teleporter.	UR_ROOM_TELEPORTERS

FR_EVADE_ARREST	The AI will attempt to evade arrest from the player	Alternative:The AI could attempt to attack the players rather than try to escape.	UR_ARREST
FR_RECEIVE_NOTIFICATION	A notification icon for the room should appear to display the room/system currently being sabotaged.	Alternative: a sound that corresponds to the correct room or an arrow on the screen that points to the room could appear.	UR_NOTIFICATION
FR_ASSIGN_ABILITY	At the start of the game each AI is assigned an ability	Alternative: only 3 of the AI gets an ability	UR_AI_ABILITIES
FR_MOVEMENT	The game will allow the user to move freely around the ship in at least the 4 cardinal directions	Alternative: Player could click on the screen where to move to	UR_REAL_TIME
FR_HEALING_FUNCTION	Being at the infirmary, a user should be able to heal by pressing a specific key.	Alternative: user could be healed automatically after teleporting to the infirmary.	UR_HEAL
FR_DAMAGE	Player should be able to take damage from certain enemies	Alternative: players could be able to take damage from all enemies.	UR_AI_ABILITES
FR_SYSTEM_DESTROYING	Each AI is able to destroy any of the 15 key systems.	Alternative: only a couple of the AI could have the ability to destroy systems.	UR_SYSTEMS
FR_START_DEMO	After idling x time, or y button pressed the game should start the demo mode	Alternative: user could turn on the demo mode from the main menu only.	UR_DEMO
FR_ATTEMPT_SABOTAGE	Infiltrators have abilities allowing them to sabotage the key systems.		UR_AI_SABOTAGE
FR_FAILED_WON	The user is notified when all key systems have been destroyed or all infiltrators have been arrested.		UR_GAME_END

Non-functional requirements table

ID	Description	User requirements	Fit Criteria
NFR_INSTANT_ TELEPORTERS	When teleporting the screen must update to the new location instantly	UR_ROOM_TE LEPORTERS	Teleporter pads are identifiable to 95% of users. After teleporting the screen is updated in < 3 seconds.
NFR_UNDERST ANDABLE_NOTI FICATIONS	The notifications must be obvious to all players	UR_NOTIFICA TION	The notifications are represented by obvious pictures or simple words that 90% of users would understand.
NFR_INSTANT_ NOTIFICATION	User receives a notification instantly	UR_NOTIFICA TION	In 99% cases, a notification icon appears in < 2 seconds.
NFR_SCREEN_ UPDATES	The screen will update fast enough that players will not notice refreshing	UR_REAL_TIM E	The game must play over 30-60 FPS and be controlled by the user in real time without noticeable lag.
NFR_DYNAMIC_ FRAMERATE	The game can support dynamic framerate	UR_REAL_TIM E	Each temporally dependent part of the game must be independent of the framerate, therefore the speed of the game should be consistent regardless of the framerate 95% of the time.
NFR_HEALTH_B AR	It should be obvious when Auber is injured	UR_HEAL	90% of users understand when Auber is injured. In 100% cases, Auber's health is fully replenished after healing at infirmary.
NFR_SYSTEM_ RECOGNISABILI TY	The key systems should be recognisable	UR_SYSTEMS	15 of the key systems are outlined and can be recognised by 95% of users. 100% of the systems that were destroyed look differently.
NFR_SHOW_DE MO	Every user is able to turn on the demo mode	UR_DEMO	100% of users are able to turn on the demo mode at any time.
NFR_END_NOTI FICATION	After losing or winning every user will be notified	UR_GAME_EN D	When the player loses or wins, there is 100% chance to receive a corresponding notification.