ENG1 Requirements

Cohort 3 - Group 28

“Team 28”

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Requirements Elicitation and Negotiation

The requirements were initially elicited and negotiated with the use of the product brief. We did this by identifying the key requirements specified within the product brief in order to give us a foundation to work with. We discussed that we would first make it clear what the main functionalities the game should have and then start adding unique features according to our clients needs in order to make the game specific to us.

We looked into requirements elicitation and presentation techniques in more detail to make sure the requirements specification was accurate and comprehensive. To collect and refine the requirements, we used methods like brainstorming sessions, stakeholder interviews, prototyping, and observations . Through active engagement with stakeholders, such as subject matter experts and potential users, we were able to obtain important insights about their goals, needs, and preferences.

In this process, User requirements were assigned a priority (should/shall) to differentiate between essential and desirable features from the user's perspective, while System requirements (Functional and Non-functional) were detailed with fit criteria to outline operational standards and performance benchmarks.

We also realised how crucial it was to negotiate needs and set priorities in order to meet stakeholder expectations and project limits. We repeatedly assessed and improved the criteria through constant communication and cooperation, making the required modifications to account for shifting priorities and conditions. We were able to retain our adaptability and flexibility while making sure the end product achieved the intended goals thanks to this iterative process.

Some of the extra requirements gained from the main customer meeting included the need for a robust single-player experience, cross-platform functionality (Desktop only), and a strong emphasis on usability and enjoyment. This was in response to the customer's vision for a game that would be accessible to a wide range of players - particularly aimed at prospective university students. There was no artstyle preference, provided the maximum file size did not exceed 512MB.

Overall, guidelines in the product brief were used to guide the requirements elicitation and negotiation, with an emphasis on stakeholder engagement, communication, and teamwork. We sought to guarantee that the finished product satisfies the requirements and expectations of all stakeholders while abiding by project limitations and providing value to the end users.

Requirements Statement

SSON

"You are to build a single-player game that requires managing the activities performed by a second year computer science student the final week before their exams are to begin."

System-wide Constraints

- Java 11
- Appropriately-licensed 3rd-party libraries, tools, and assets
- Meet the demands of shareholders and stakeholders
- Usable on all reasonable user devices (Desktop only)
- £0.00 Budget

User Requirements

ID	Description	Priority
UR_LENGTH	The player should not spend longer than 15 minutes on a given session.	Shall
UR_IDEAL_LENGTH	The player should not spend longer than 10 minutes on a given session.	Should
UR_GAME_AVATAR	The player will control an avatar representing a second-year computer science student. The avatar can move around the map and interact with various objects.	Shall
UR_GAME_DURATION	The game will last for 7 days, with each day ending when the player goes to sleep. The game ends after the 7th day.	Shall
UR_MAP	The game must contain a map for the avatar to move around in. This map should contain at least some of the Heslington East campus buildings.	Shall
UR_BOUNDS	The avatar should be restricted from certain areas, such as going off screen.	Should
UR_ACTIVITY_TRACKER	There will be a tracker for the 7 in game days, with a mechanism to move to the next day.	Shall
UR_ACTIVITY_COUNTER	There will be a simple counter denoting how many of each activity has been performed so far.	Shall
UR_AVATAR_RECOGNISE	The player should always be able to identify where their avatar is on screen.	Should
UR_STUDY_AREA	The game must contain at least one place to study (maximum 2 places)	Shall
UR_SLEEP_AREA	One place to sleep, for example a student accommodation building.	Shall
UR_RECREATIONAL_AREA	At least three places to perform recreational activities either within campus or nearby (within York). … Maximum 6 places.	Shall

ID	Description	Priority
UR_EAT_AREA	At least one place to eat, for example the Piazza building, or restaurants in town.	Shall
UR_EAT_MAX	There can be up to 3 places to eat.	Should
UR_RESOURCE_CONSUMPTION	Performing an activity will consume energy and progress time.	Shall
UR_EXAM	The primary objective of the game is to ensure the avatar has studied enough for exams, taken some time for themselves, and had enough rest every day.(Instant - stats have to be between a certain range to pas)	Shall

System Requirements, Functional

ID	Description	User Requirements
FR_EIGHTH_DAY	It should be impossible to interact with the game mechanics after the seventh day has passed.	UR_ACTIVITY_TRACKER
FR_OOB	Certain areas should be restricted from access by the avatar to maintain suspension of disbelief.	UR_BOUNDS, UR_MAP
FR_MOVEMENT	The main character needs to be able to move around the map	UR_GAME_AVATAR
FR_RECORDS	The tracking of activities must be active for as long as the game is not over	UR_ACTIVITY_COUNTER
FR_INTERACT	The player character should be able to interact with buildings and NPCs	UR_STUDY_AREA, UR_SLEEP_AREA, UR_RECREATIONAL_AREA, UR_EAT_AREA
FR_SKIP_TIME	Activities need to progress time	UR_RESOURCE_CONSUMPTION
FR_BEYOND	Metres should not increment beyond their maximum or minimum.	UR_ACTIVITY_COUNTER
FR_USE_ENERGY	Activities need to reduce energy by a set amount	UR_RESOURCE_CONSUMPTION
FR_CAMERA_FOLLOW	The camera should follow the player character in some description	UR_AVATAR_RECOGNISE, UR_BOUNDS

ID	Description	User Requirements
FR_EXAM_CALCULATE	The program should calculate a score based on the activity counts	UR_EXAM

System Requirements, Non-functional

ID	Description	User Requirements	Fit Criteria
NFR_AFFORDANCE	Any user shall be able to operate the game without a manual or prior instruction	UR_LENGTH	No playtester should return confusion with how the game works as part of their feedback
NFR_TIMER	The in-game timing system should force the game to end within the 15 minutes limit	UR_LENGTH	No user should be able to make the game run longer than 15 minutes without use of a pause system
NFR_MOVEMENT_UNDERSTANDING	The movement system should be easy to use and understand.	UR_GAME_AVATAR, UR_LENGTH	Every user should be able to understand the movement system within the first 30 seconds of playing
NFR_CRASHLESS	The systems should not crash under realistic circumstances	UR_LENGTH	Every test should fail to produce a crash
NFR_DAY_PROGRESSION	The day systems should progress consistently	UR_GAME_DURATION, UR_ACTIVITY_TRACKER	Every play session should show a progression through a maximum of seven marked timeslots
NFR_SLEEPING	Sleeping should be usable by every player to end the day.	UR_GAME_DURATION, UR_SLEEP_AREA	The user should consistently be able to interact with the sleeping mechanic
NFR_DRAW	The map should use a fixed design that consistently appears without errors	UR_MAP	Every play session should display a map with no visible artefacts or glitches
NFR_INPUT_ACCURACY	The system should accurately respond to user inputs	UR_STUDY_AREA, UR_SLEEP_AREA, UR_RECREATIONAL_AREA, UR_EAT_AREA	Only the items selected should respond in every test, within 5 pixels of inaccuracy