

Requirements

Group 9

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Introduction to requirements:

[1][2] Our requirements were elicited through an interview with the main client (Tommy Yuan) for our project. During this interview all 7 developers of the project were present (listed at the top of the document), and all questions asked in the interview were prepared prior to the engagement. These questions gathered information on expansion of the basic requirements already elicited in the assessment documentation, which also allowed us to create updated requirements for our project.

[3] Requirements are split into user and system requirements, and functional and nonfunctional requirements. User requirements are what the user demands from the system, and system requirements are a description of constraints, functionality and services, on how the system will carry out the demands of the users. System requirements are then further broken down into functional (basic facilities and functionalities the user demands) and nonfunctional (according to the project contract, quality constraints system must adhere to) requirements. All have been presented in the format of tables (separate table for each section of requirements) for ease of reading and understanding, in addition to making the documentation modular, providing simple management and tracking of requirements. This means there is a smaller chance of a requirement being missed.

Separation and gathering of the requirements has been done in this way to avoid ambiguity, so that the needs of the user and constraints of the system can be clearly defined and worked with. In addition, this creates a base for planning the project construction and estimating time frames, which makes the project more manageable. Finally, this allows clear definition of the clients needs from the project and outlines expectations of the client, keeping all primary stakeholders on the same page.

The primary stakeholders are the project developers, whose interest lies in development, management, and maintenance of the project. Tommy Yuan is the project's main client, whose interest is in the creation of a game that meets the system and user requirements that he (the client) has given. Furthermore, the rest of our cohort is a primary stakeholder, as their interest in the project is potentially choosing it for use in the second assessment, based on their judgement of how promising the project is.

Single Statement of Need (SSON)

“The game shall allow players to create their own interactive university campus. This should include planning, decision-making and resource management, in order to grow the campus over time.”

“The game shall enable players to create and manage their own university campus through construction of buildings, responses to events, and management of budget, in order to maximise student satisfaction.”

Requirements:

User Requirements:

ID	Description	Priority
UR_PLACE_BUILD_SDY	User can place buildings that act as study locations	High
UR_PLACE_BUILD_EAT	User can place buildings that act as locations for students to eat	High
UR_PLACE_BUILD_HME	User can place buildings that act as locations for students to live	High
UR_PLACE_BUILD_RLX	User can place buildings that act as relaxation areas	High
UR_DESTROY_BUILD	User can destroy buildings	High
UR_PLACE_PATH	User can place paths for students to move around on	Medium
UR_MUTE	User can mute the music	Low
UR_UX	The GUI should be intuitive to navigate for the user and should be easily understandable	Medium
UR_RESOLVE_EVENTS	The User should be able to resolve events	Medium
UR_SIZE_CHANGE	User can change the size of the display	Low
UR_MOVE_BUILD	User can move placed buildings	high

System Requirements

Functional Requirements

ID	Description	User Requirements
FR_GAME_TIMER	The game should last exactly 5 minutes.	UR_NA
FR_BUILDING_COUNTER	Must display a real-time counter of how many buildings have been placed	UR_NA

FR_SSC_DISPLAY	Display the current Student Satisfaction Score	
FR_MONEY_DISPLAY	Display the current money gained by the university in the game	

Nonfunctional requirements

ID	Description	User Requirements	Fit Criteria
NFR_FAST_LOADING	The game should load reasonably quickly on the user's machine.	UR_UX	Home screen to load within <5 seconds of running.
NFR_OPERABILITY	Game should be playable by anyone, without computer knowledge		
NFR_GAME_END	Once timer runs out, score should be calculated and displayed to user within 5 second maximum		Screen with the final game score should be shown within 5 seconds maximum.

References

1. GeeksforGeeks, "Software Requirement Specification (SRS) Format," *GeeksforGeeks*, Jun. 18, 2020.
<https://www.geeksforgeeks.org/software-requirement-specification-srs-format/>
2. [2] "Requirement Documentation in Software Engineering: How To," *aloo.co*.
<https://aloo.co/blog/requirement-documentation-in-software-engineering>
3. [3] "Importance of Requirement Gathering in Software Development," *GeeksforGeeks*, Jan. 30, 2024.
<https://www.geeksforgeeks.org/importance-of-requirement-gathering-in-software-development/>